

LARGE SYSTEMS
REQUIREMENTS
IN DENMARK

A CUSTOM STUDY
FOR
NATIONAL ADVANCED
SYSTEMS (EUROPE)
CORPORATION

BY
INPUT LIMITED
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I. SAMPLE

A. ORGANISATIONS INTERVIEWED

o Seven organisations were interviewed and are listed with their classification in Exhibit I-1.

- The distribution by CPU manufacturers was as follows:

. Amdahl	27.3% (3)
. IBM	54.6% (6)
. NAS	18.1% (2)

- Exhibit I-2 shows the distribution of equipment.

B. METHODOLOGY

o Three of the interviews were on site. Four were conducted by telephone.

EXHIBIT I-1

Organisations Interviewed

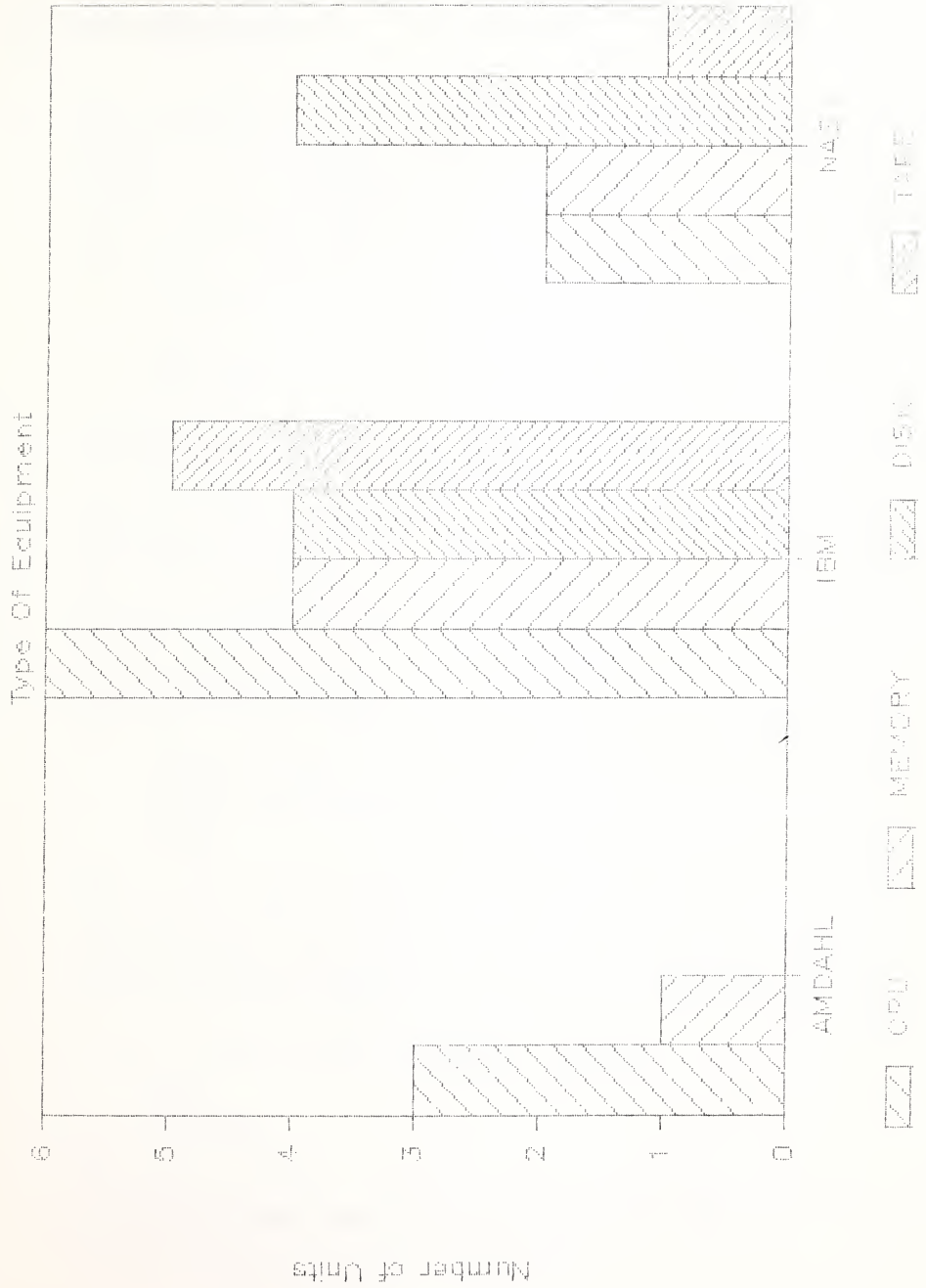
DATACENTRALEN AF	IBM/AMDAHL
VAERDIPAPIRCENTRALEN	IBM/NAS
SUPERFOS DATA A/S	IBM
KOMMUNEDATA I/S	IBM/AMDAHL
HANDLESBANK	IBM
PRIVATBANKEN A/S	IBM/AMDAHL
DENMARK STATISTIK	NAS

Analysis of Sample by Category

FINANCIAL	2
SERVICE	4
GOVT/UTILITY	1

Compare to 1964
OWOP

EXHIBIT 1-2



II. EXECUTIVE SUMMARY

A. KEY CONCLUSIONS

- o The perception of NAS as a large systems supplier in Denmark is very good. (Perceptions are evaluations given by all respondents for each vendor regardless of which equipment they use). It is perceived to be better than Amdahl and IBM in 4 out of 7 key criteria:
 - Product performance
 - Price
 - Personnel
- o Highest ratings were for product performance and product reliability. All rankings were "adequate" or better.
- o NAS was rated in the middle in perceived market strength and product range.
- o NAS' most negatively perceived criterion is its Company image.
- o Actual ratings (where users rate their own vendors only) show NAS in the middle between Amdahl or IBM for:
 - Product range
 - Product performance
 - Price
- o Only in Executive Relationships and support personnel (relating to perceived qualities of marketing strength and personnel, respectively) is NAS rated better by its users than either Amdahl or IBM users rate.
- o Actual ratings which were worst included:
 - Image
 - Salesmen
- o NAS' image suffers, according to 2 respondents, because it tends to spend more time fighting with IBM than trying to solve customers' problems.

- o IBM has irritated at least 2 of the respondents seriously.
 - In one firm, IBM has a close contract with that firm at virtually every level, from the Board down to technicians.
 - . When a problem occurs, IBM usually knows about it and is not afraid to bring it up the ladder on their side and report it to higher levels in the firm.
 - . Furthermore, IBM is usually given a place on the task team to solve a major problem.
 - Another organisation has made it clear to IBM that their strategy is a 2 vendor strategy which has upset IBM (they want it all) to the point that IBM's support is beginning to degrade.

B. RECOMMENDATIONS

- o NAS should work on enhancing its image in Denmark. The thrust of this effort should take into account the perceived contention with IBM.
- o The majority of respondents are committed to IBM but seem to embrace a two vendor philosophy, NAS should be reminded of this and set its targets accordingly.
- o The apparent anomaly between perceived qualifications being better than actual ratings for the same issues warrants a special customer satisfaction product to explore, determine and adjust the differences of views.

III. STUDY FINDINGS

A. LOYALTY

1. LOYALTY FACTORS

- o Loyalty factors are shown in Exhibits III-1 and III-2. NAS (4.3) inspires the highest loyalty among their users. A loyalty factor of around 4 means that although essentially loyal to their existing vendors, users will always consider proposals from other vendors.
- o Most respondents do not distinguish their loyalty by product or by the company.

2. PLEASURES AND IRRITANTS WITH VENDORS AND PRODUCTS

- o Exhibits III-3 to III-4 summarise users' particular feelings towards their suppliers.
- o IBM's support is both a strength and a weakness and their middle management is considered an irritant.
- o NAS were praised for their support and strength and had no reported irritable aspects.

3. BUSINESS RELATIONSHIPS

- o Exhibit III-4a demonstrates that most users did not order from a vendor until relationship of 18 months transpired with their supplier.

B. PURCHASING TRENDS AND INFLUENCES

1. TANGIBLE PRODUCT REQUIREMENTS

- o Exhibits III-5 to III-8 compare the relative importance of buying parameters and current vendors' performance against this 'target'.
- o In order of average importance, the key parameters are:
 - Availability
 - Price/Performance

EXHIBIT III-1

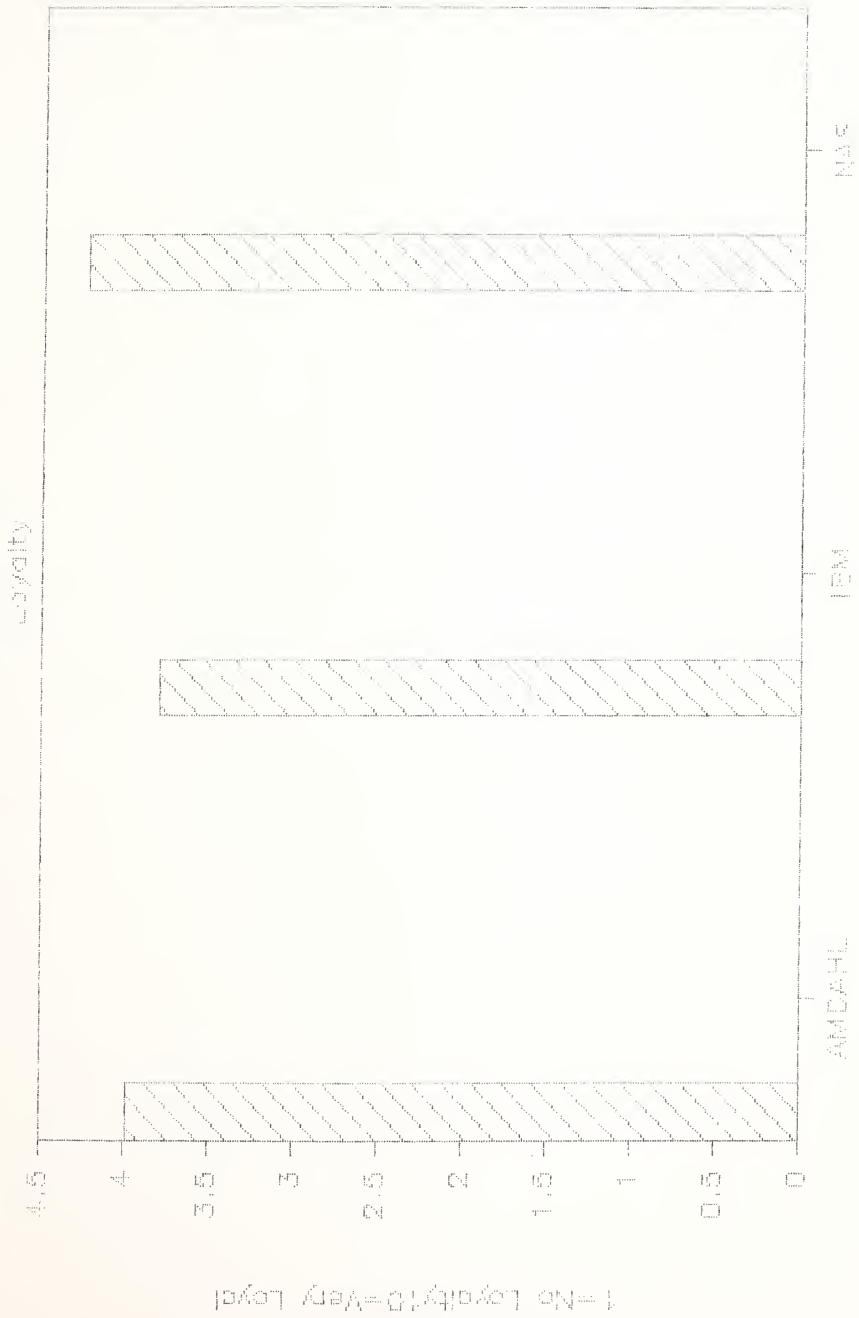


EXHIBIT III-2

Loyalty: Company Vs. Product

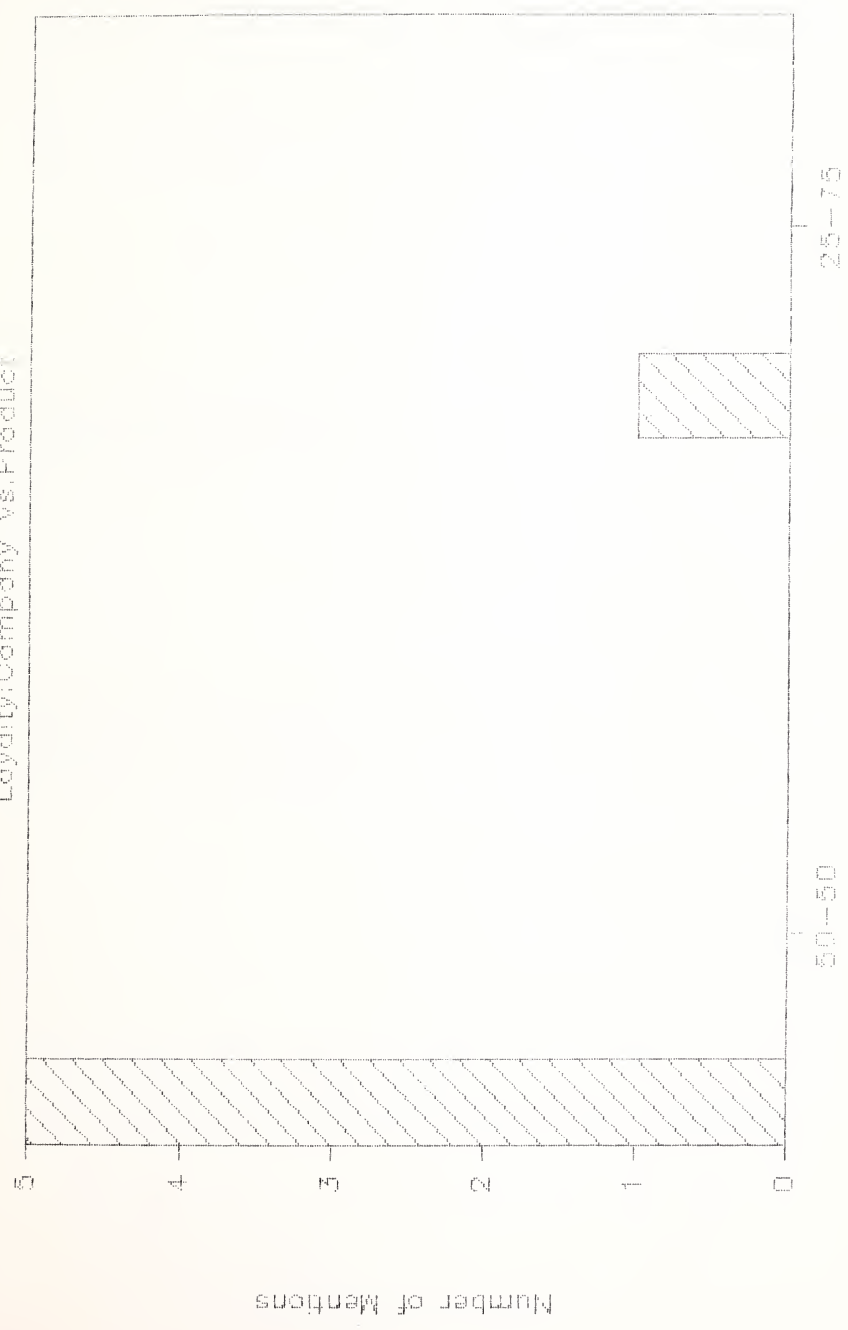


EXHIBIT III-3

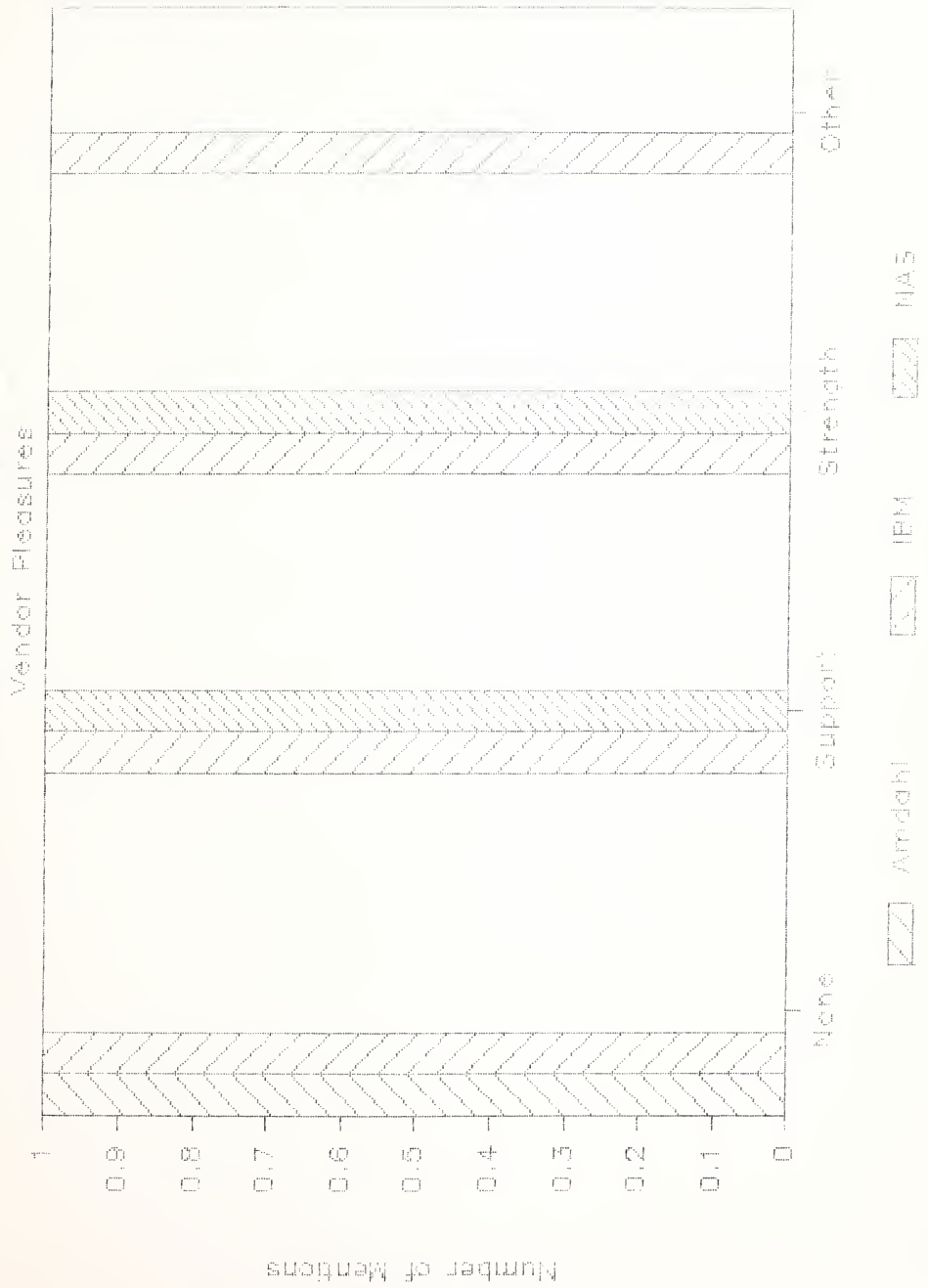


EXHIBIT III-4

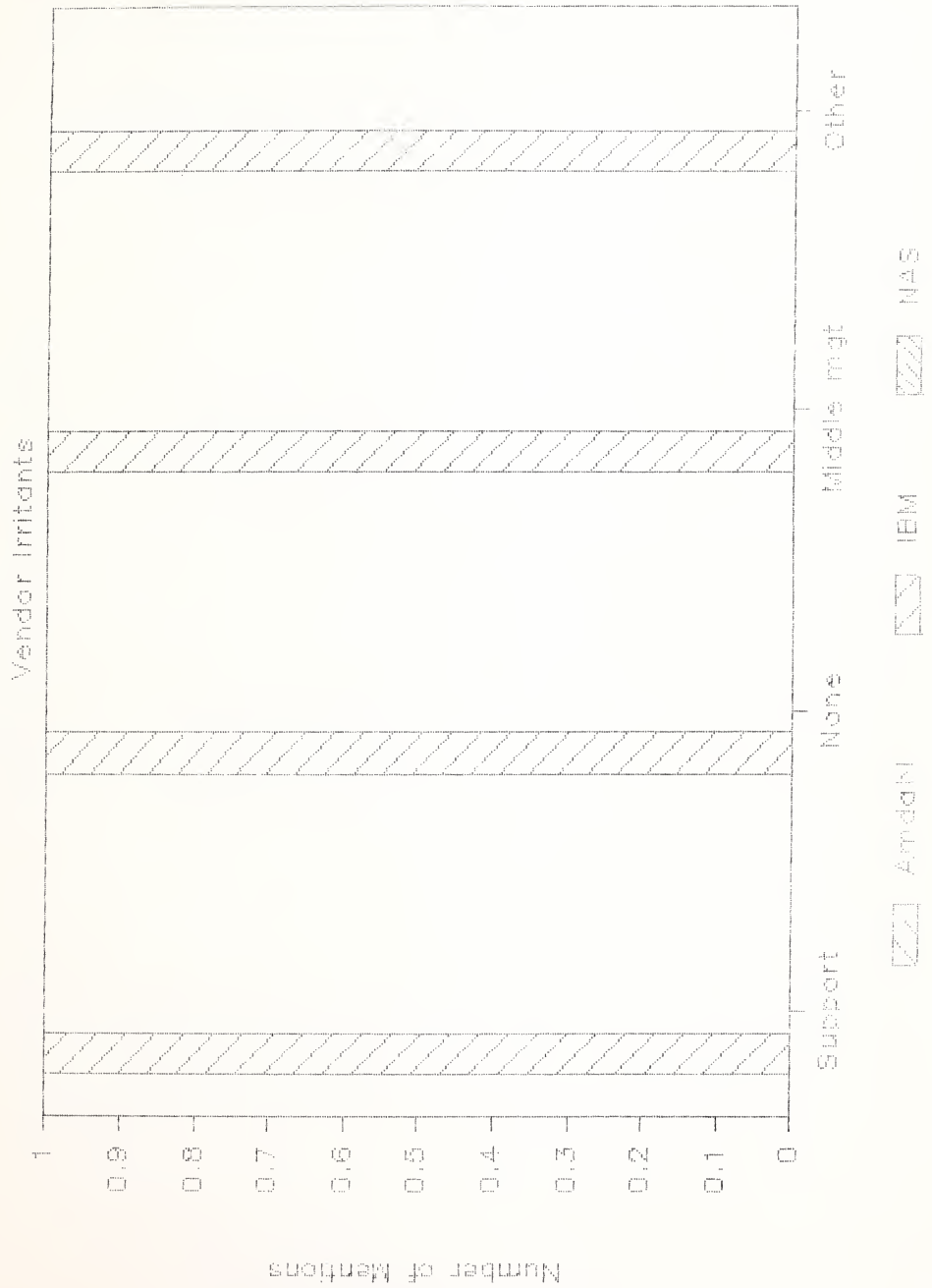


EXHIBIT III-5

Tangible Product Requirements

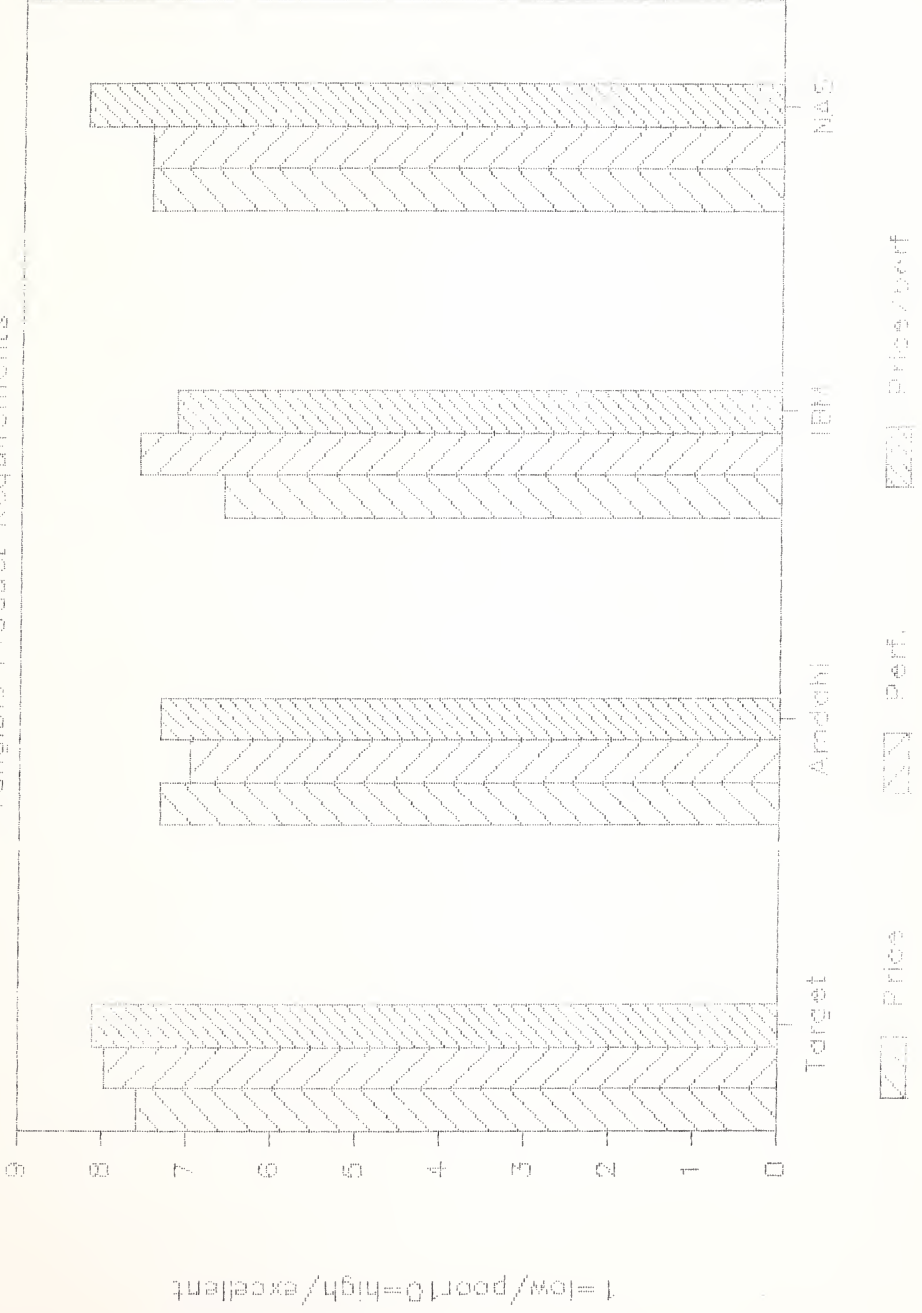


EXHIBIT III-6

Tangible Product Requirements (2)

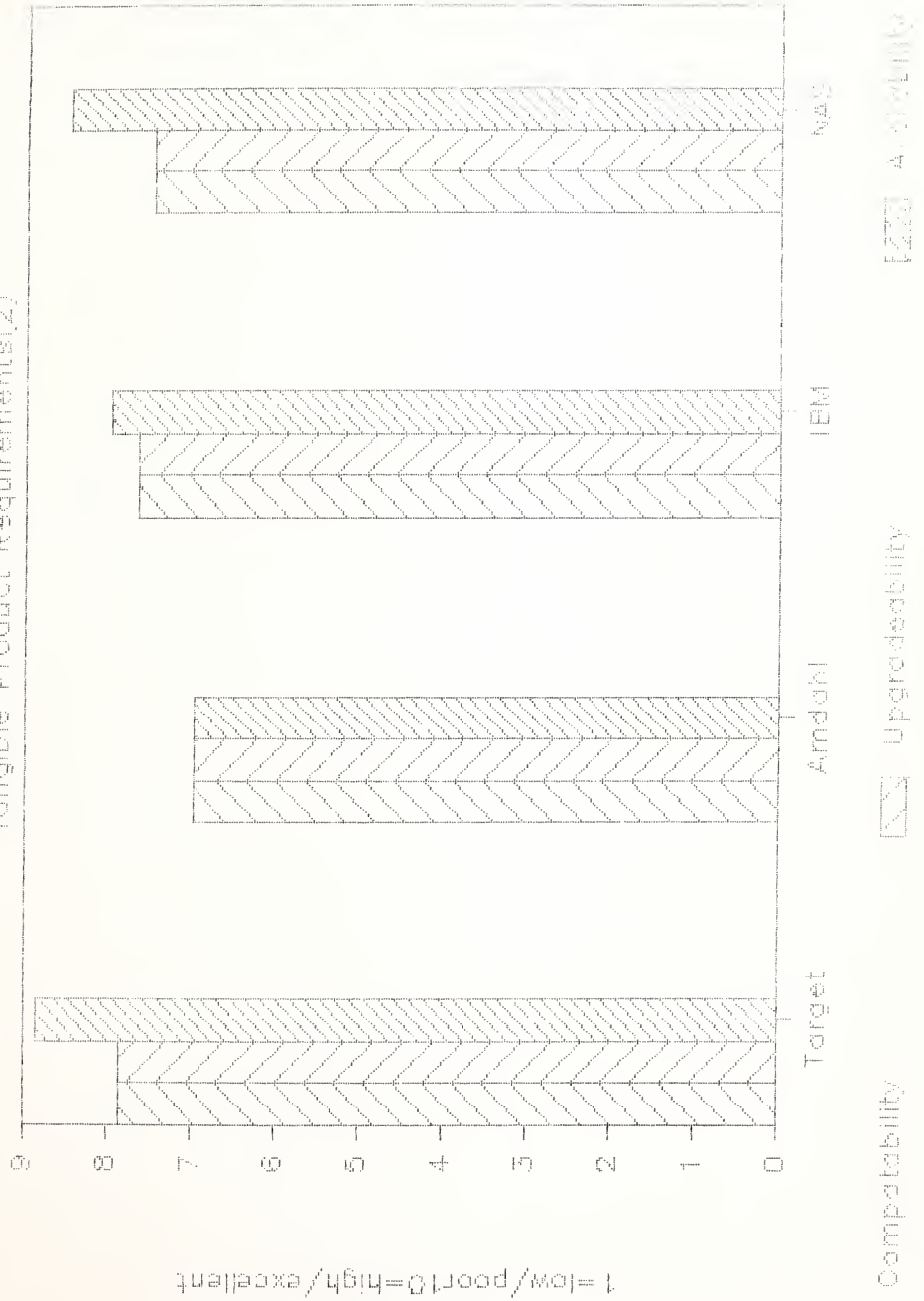


EXHIBIT III-7

Tangible Product Requirements(3)

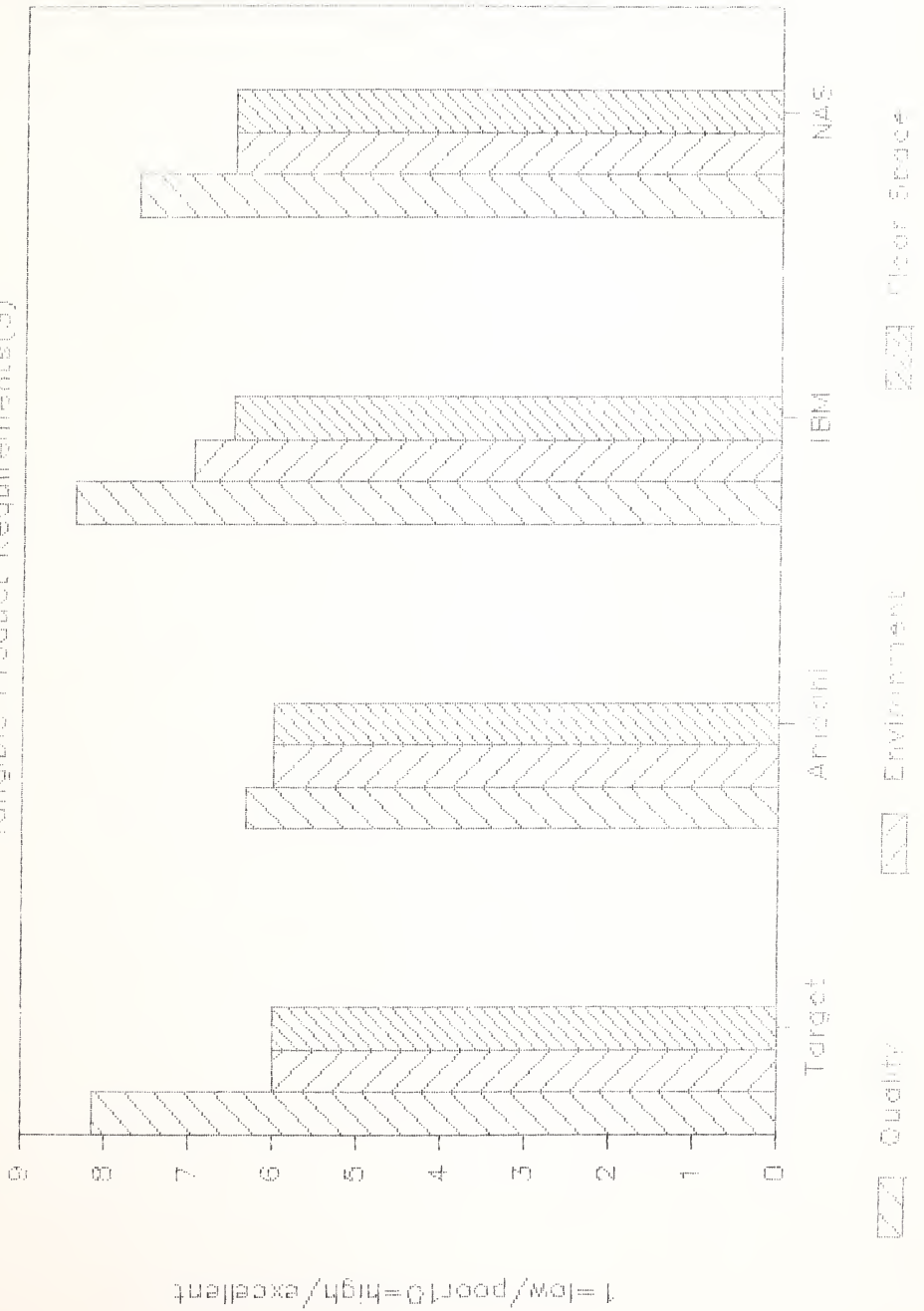
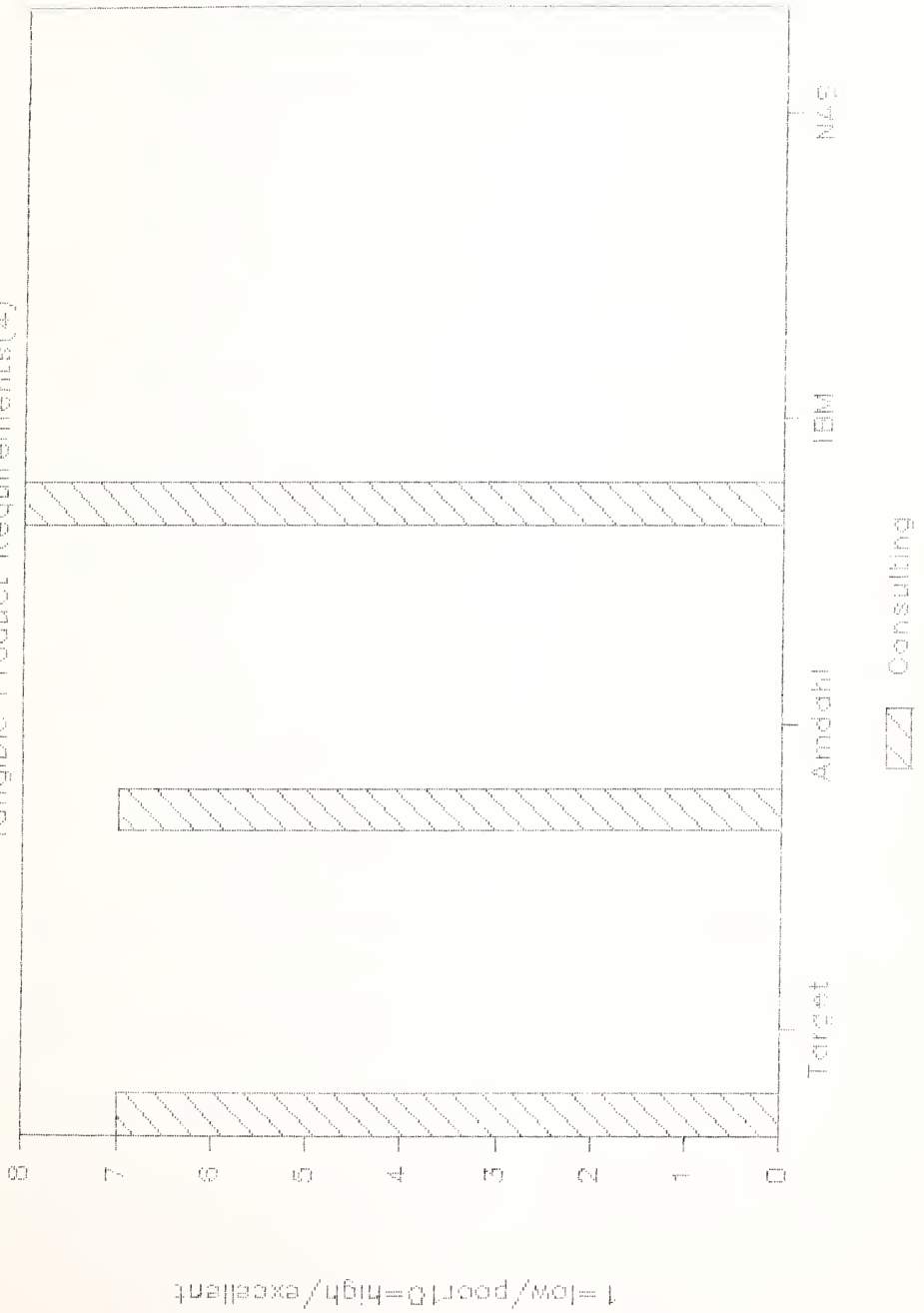


EXHIBIT III-8

Tangible Product Requirements(4)



- Quality
 - Performance
 - Compatability
 - Upgradeability
 - Price
 - Consulting Asst.
 - Environment
 - Floor space
- o NAS rated equal to or above IBM for the top five factors of compatability, price/performance, performance, availability and quality. The rating was however marginally below target in these areas.
 - o IBM rated especially badly for price and price/performance.
 - o NAS rated particularly highly for price/performance and availability.
2. TANGIBLE SUPPORT REQUIREMENTS
- o Exhibit III-9 illustrates the importance of support requirements, and compares vendor performance against this target.
 - In order of importance the three factors are:-
 - . Software maintenance (8.8)
 - . Hardware support (8.8)
 - . Systems consultancy (6.8)
 - o NAS, IBM and Amdahl rated below target for hardware and software support.
 - o NAS was rated above IBM and Amdahl for hardware support and software maintenance, and systems consultancy.
3. TANGIBLE COMPANY REQUIREMENTS
- o Exhibits III-10 to III-12 compare the relative importance to users of certain vendor company factors. In order of importance these are:
 - . Service Organisation (8.4)
 - . Post Sales Effort (8.9)

EXHIBIT III-9

Tangible Support Requirements

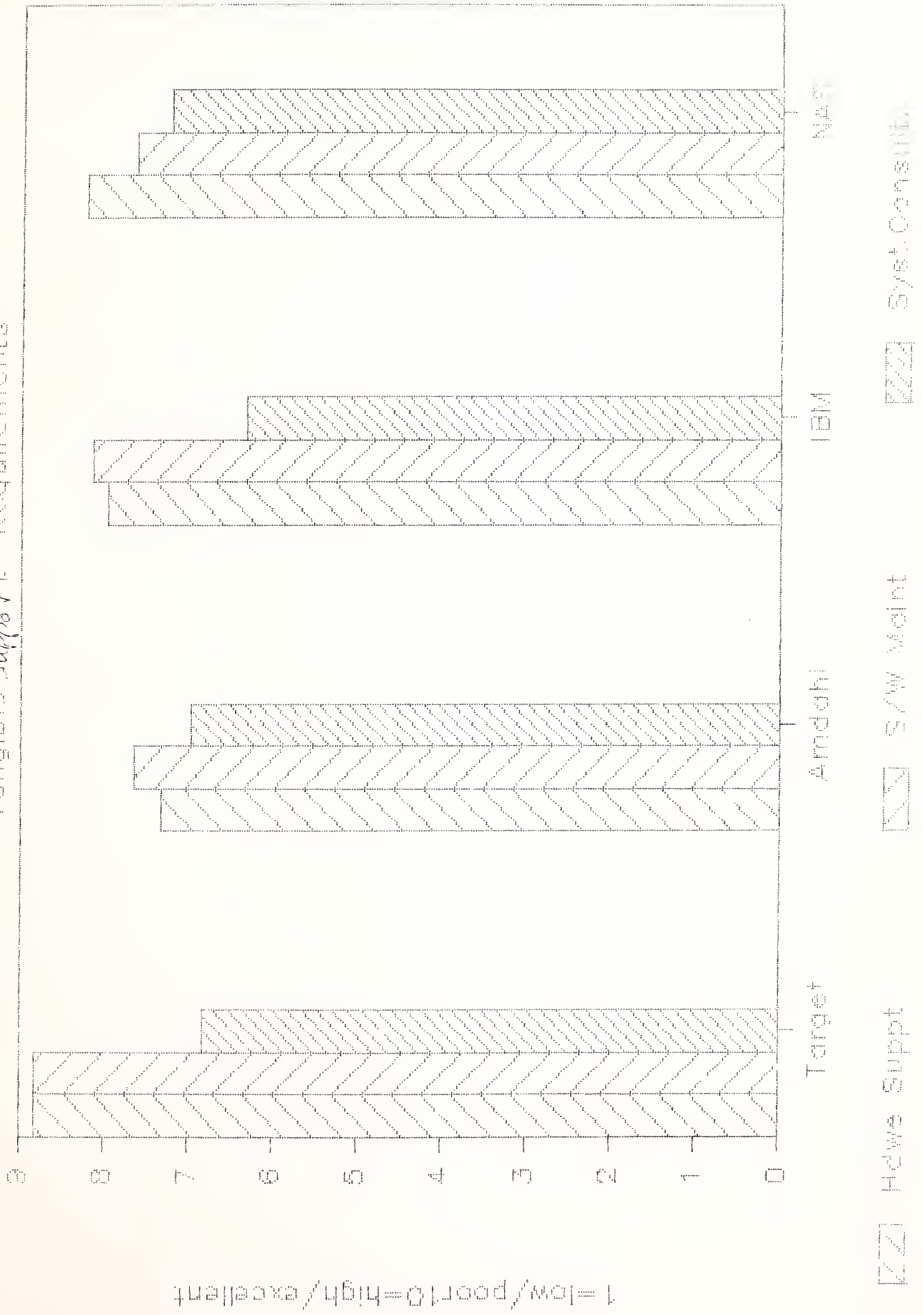


EXHIBIT III-10

Tangible Company Requirements

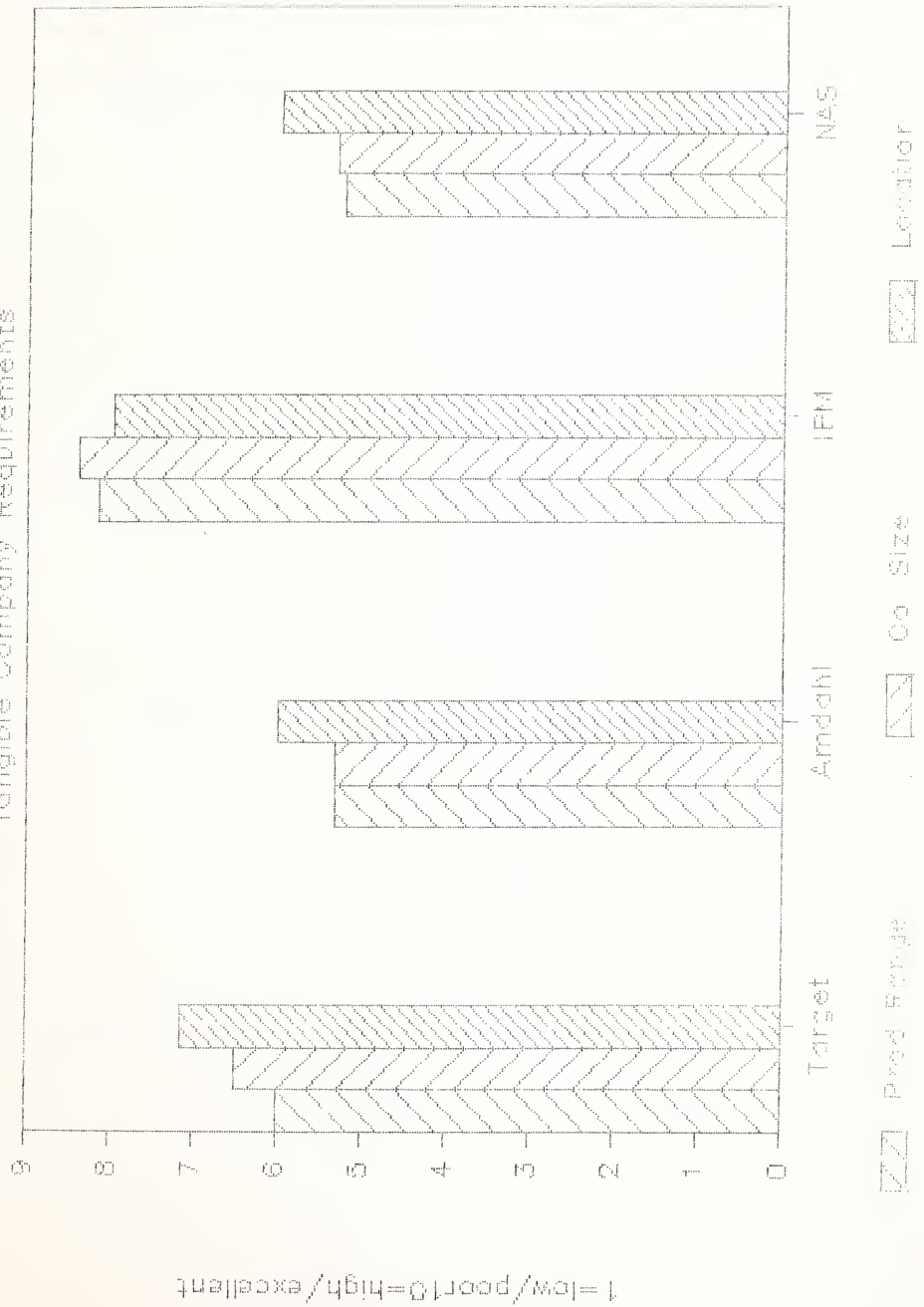


EXHIBIT III-11

Tangible Company Requirements(2)

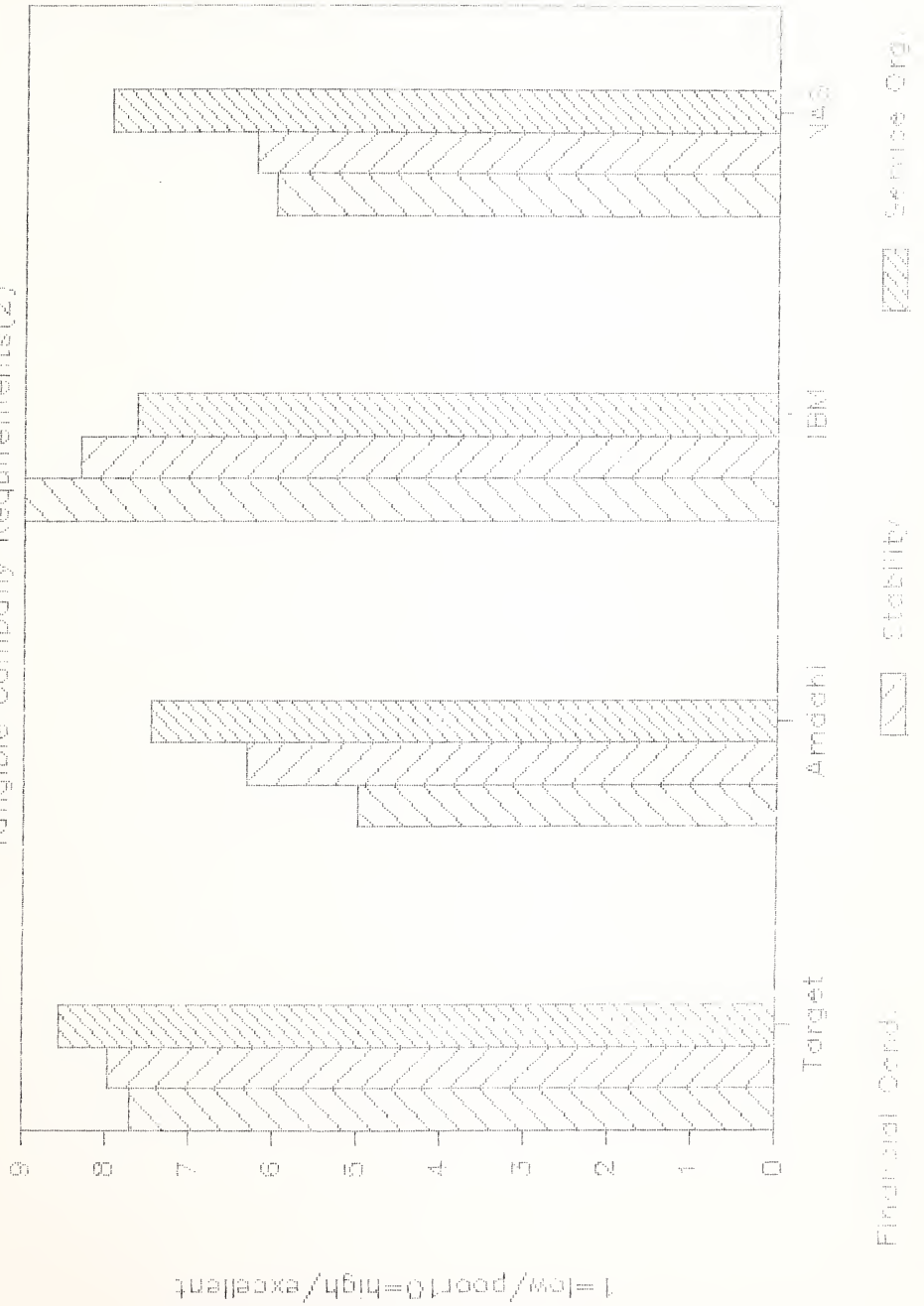
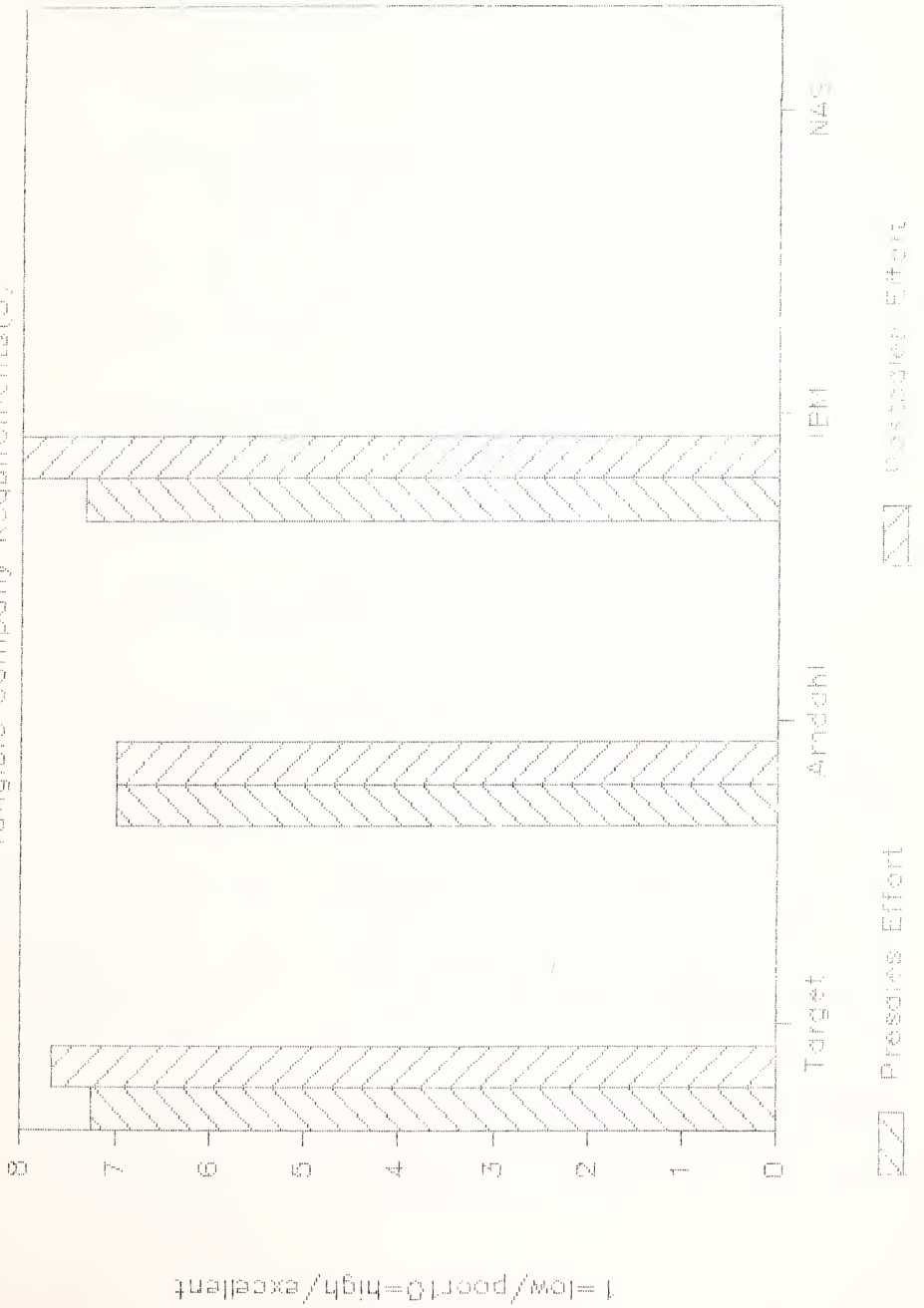


EXHIBIT III-12

Tangible Company Requirements(3)



- . Stability (8.3)
 - . Financial Condition (8.1)
 - . Pre-Sales Effort (6.8)
 - . Size of Company (7.5)
 - . Location (7.4)
 - . Product Range (7.0)
- o NAS rated above all other suppliers, but still below target in the most important criterion of service organization. In most other criteria, NAS fell below IBM, and is about equal to Amdahl.
 - o In the areas of product range and company size, NAS rated particularly badly.
4. INTANGIBLE PRODUCT REQUIREMENTS
- o The intangible factors of the effects of equipment on employees and customers is not highly rated (7.0 and 6.0 respectively). (Exhibit III-13)
 - o Few respondents commented on this area and no data about NAS performance was obtained.
5. INTANGIBLE COMPANY REQUIREMENTS
- o Exhibits III-14 to III-17 illustrate the relative importance of intangible company attributes and compare them to user ratings.
 - o NAS's performance exceeds target for several factors, but is noticeably low in reputation, image and visibility.
 - o Compared to IBM the areas where NAS falls behind is in salesmen, reputation, image, visibility, credibility and advertising.
6. THE ROLE OF THE DATA PROCESSING EQUIPMENT BUYER/INFLUENCER
- o There was little consistency in the Respondents' perception of their roles includes:

EXHIBIT III-13

Intangible Product Requirements - Effects of new product

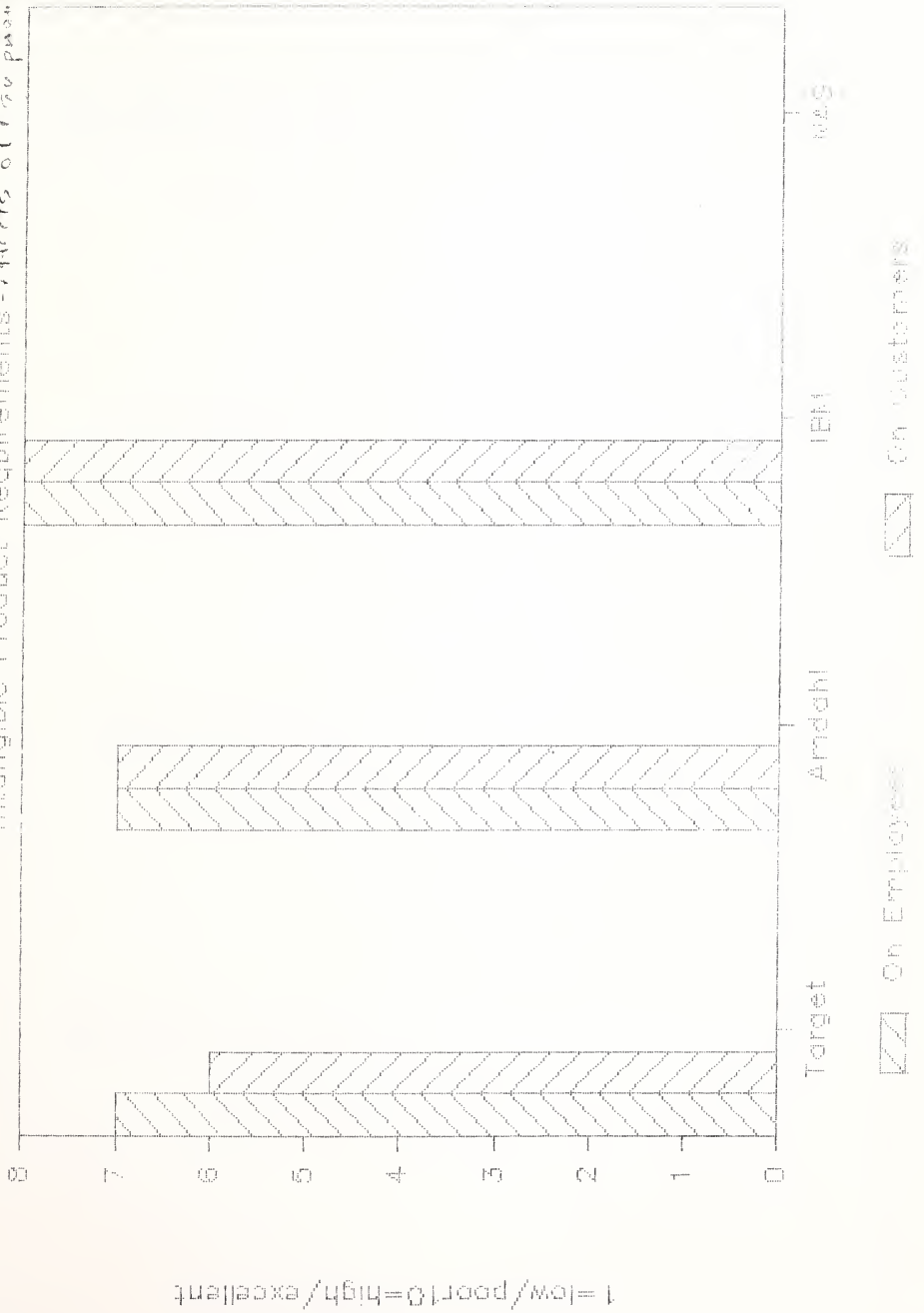


EXHIBIT III--14

Intangible Company Requirements

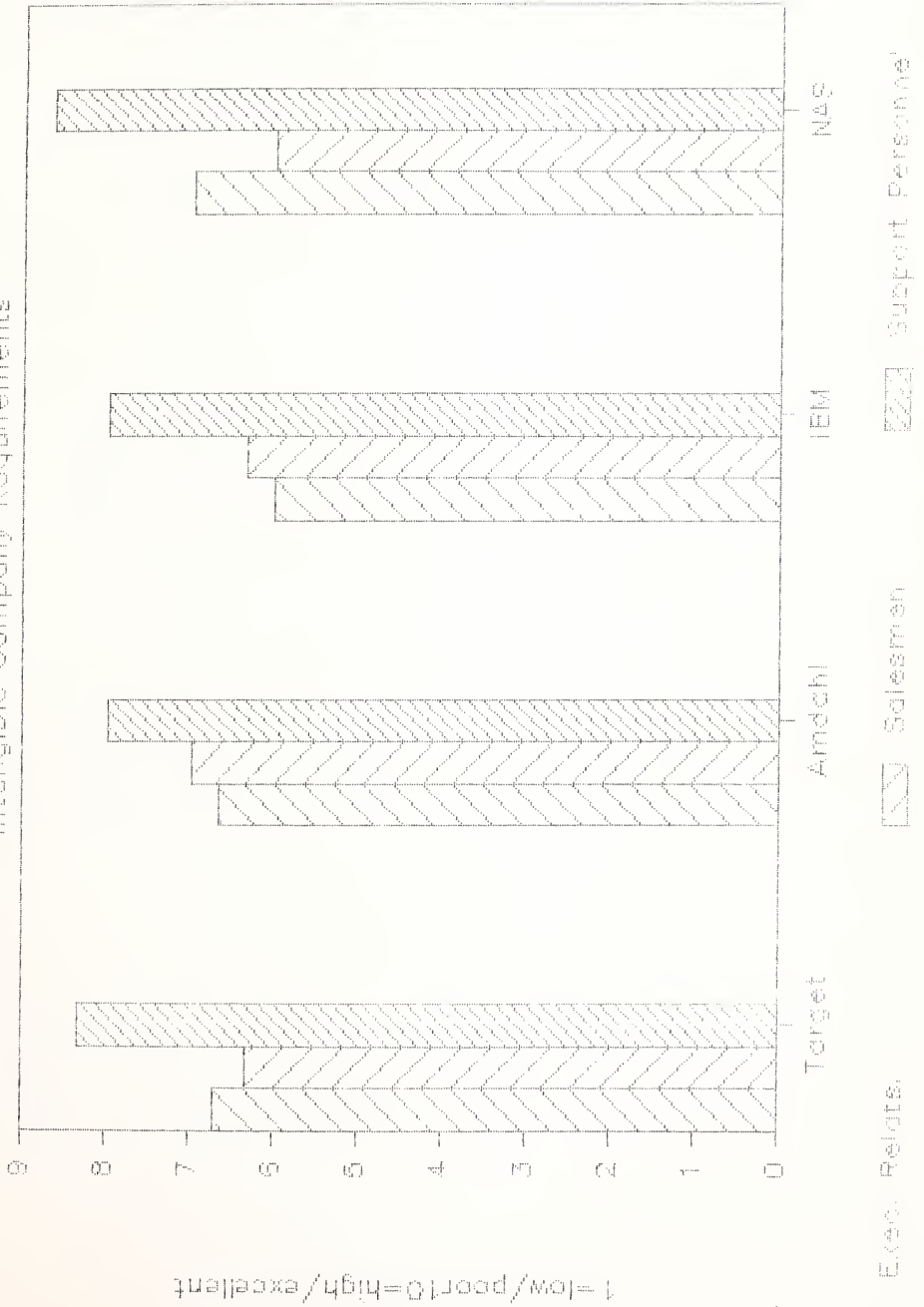


EXHIBIT III-15

Intangible Company Requirements(2)

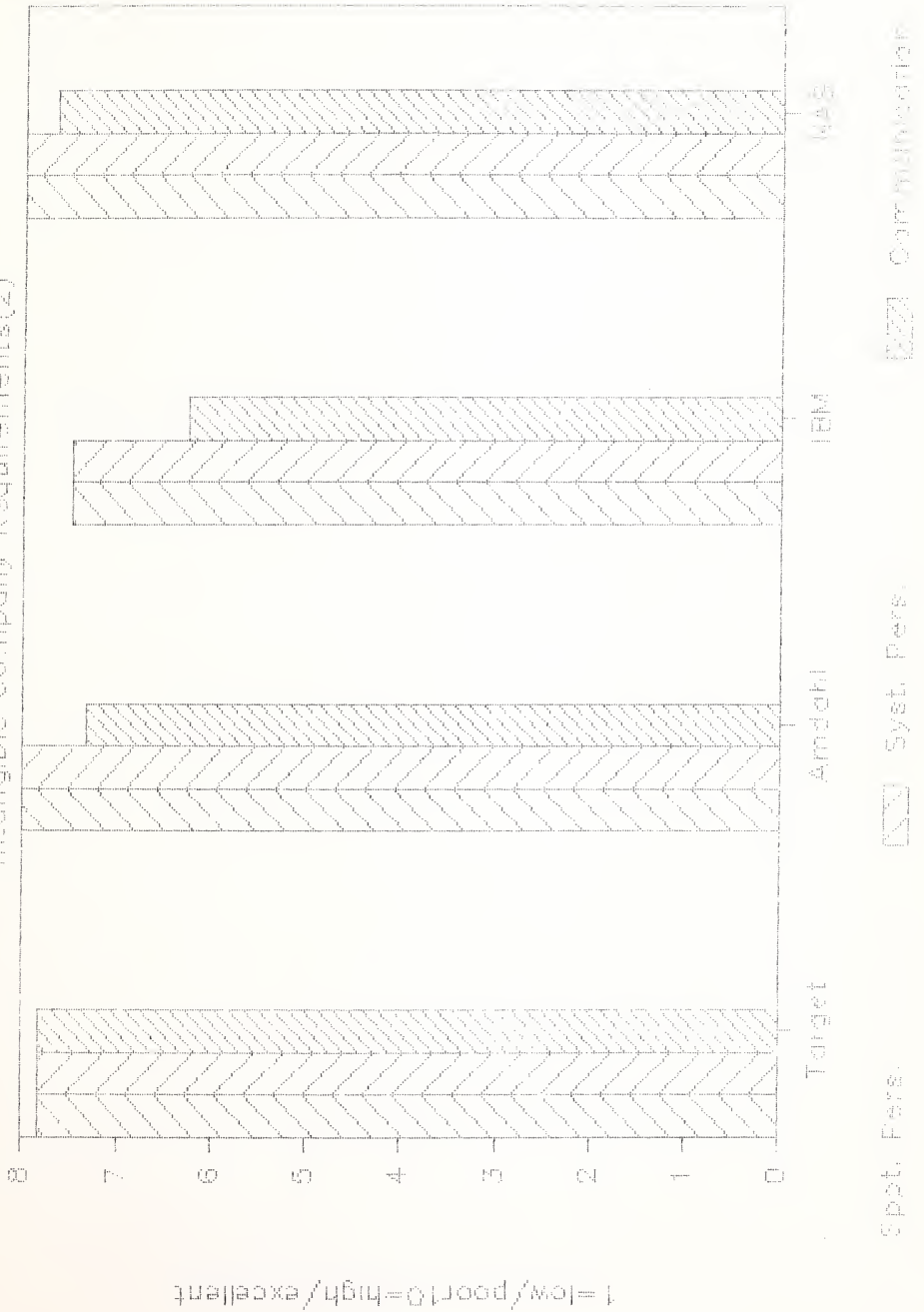


EXHIBIT III-16

Intangible Company Requirements(3)

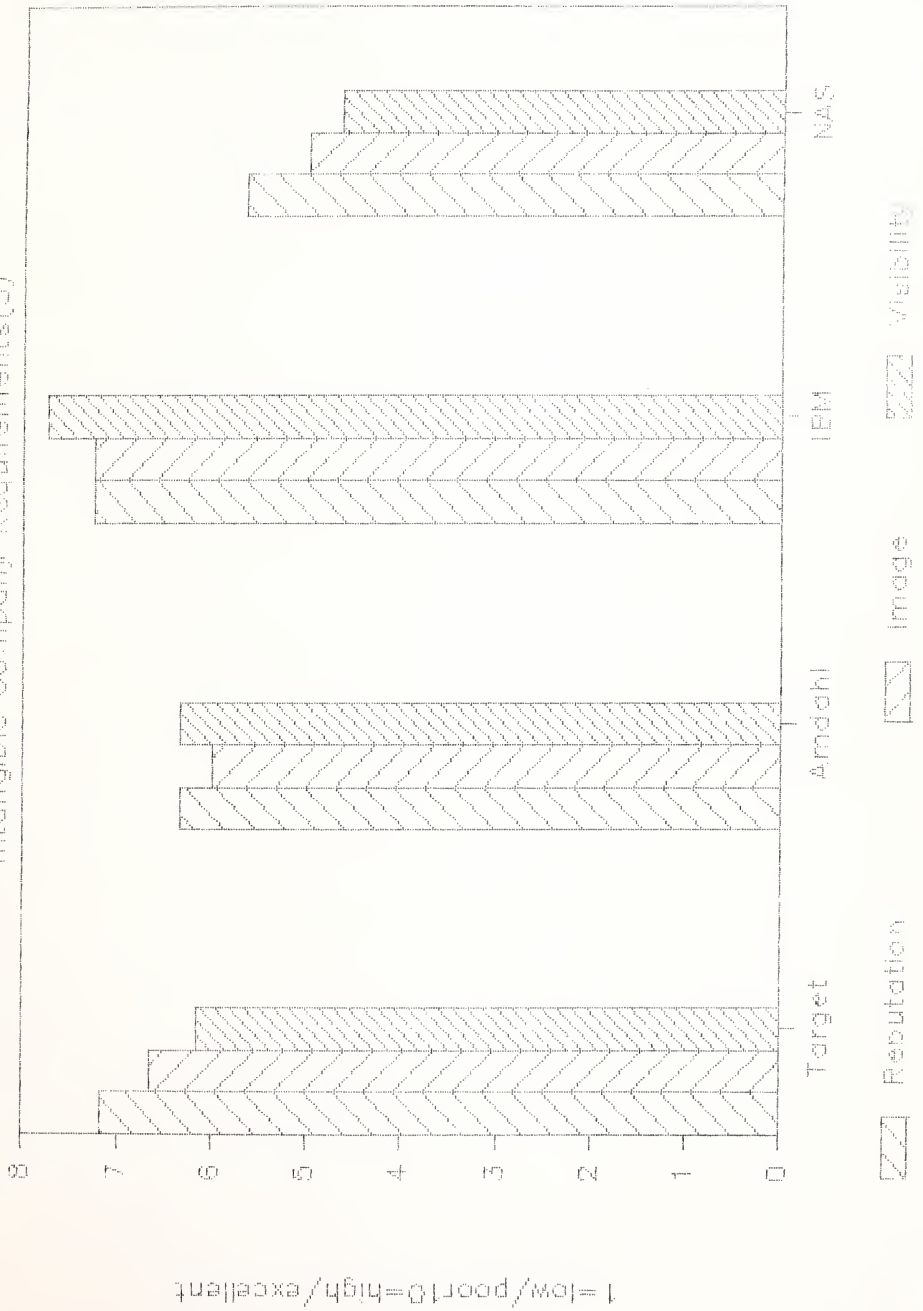
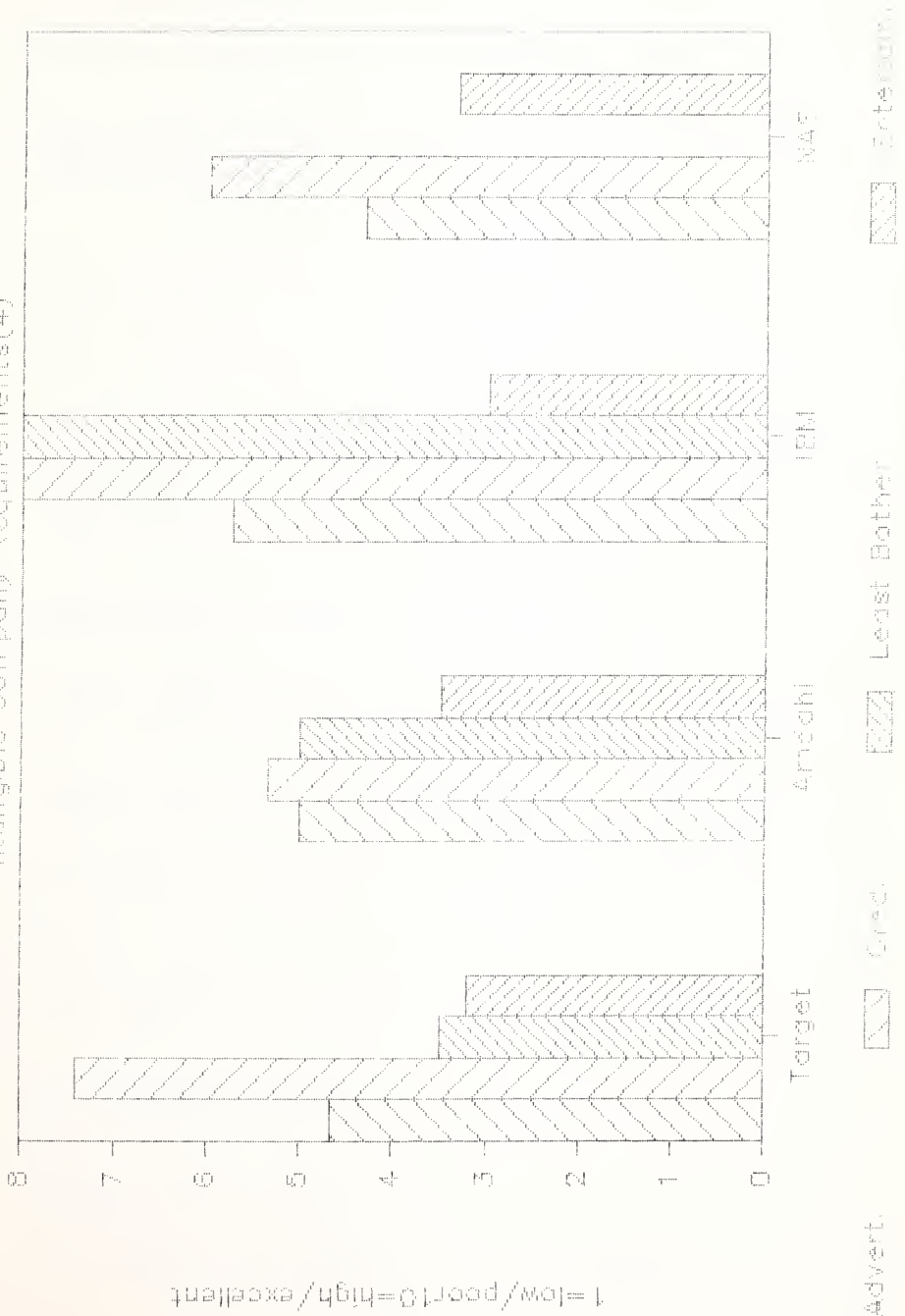


EXHIBIT III-17

Intangible Company Requirements(4)



- Productability
- Reliability
- Availability

(Exhibit III-18)

C. PROCUREMENT, EXTERNAL INFLUENCES AND WHAT IT WOULD
TAKE TO BE SOLD

- o Exhibit III-19 shows that a relatively large average number (9.5) of people are involved in the purchasing decision and that the average length of time to decide to buy is slightly more than 2 months.
- o Exhibit III-20 shows a large number of respondents prefer to buy Danish equipment and that the only basic thing it would take to be sold on other equipment is IBM compatibility.

D. PERCEPTIONS OF VENDORS

1. PRODUCT RANGE (Exhibit III-21)
 - o NAS is moderately well viewed, ranking behind IBM.
2. PRODUCT PERFORMANCE (Exhibit III-22)
 - o NAS enjoys a highly perceived product performance outranking both Amdhal and IBM.
3. PRODUCT RELIABILITY (Exhibit III-23)
 - o Again, NAS is well regarded, rating above IBM and Amdhal.
4. PRICE (Exhibit III-24)
 - o NAS exceeds IBM and Amdahl in perception of price.
5. COMPANY IMAGE (Exhibit III-25)
 - o NAS's image equals Amdhal's but trails IBM's.

EXHIBIT III-18

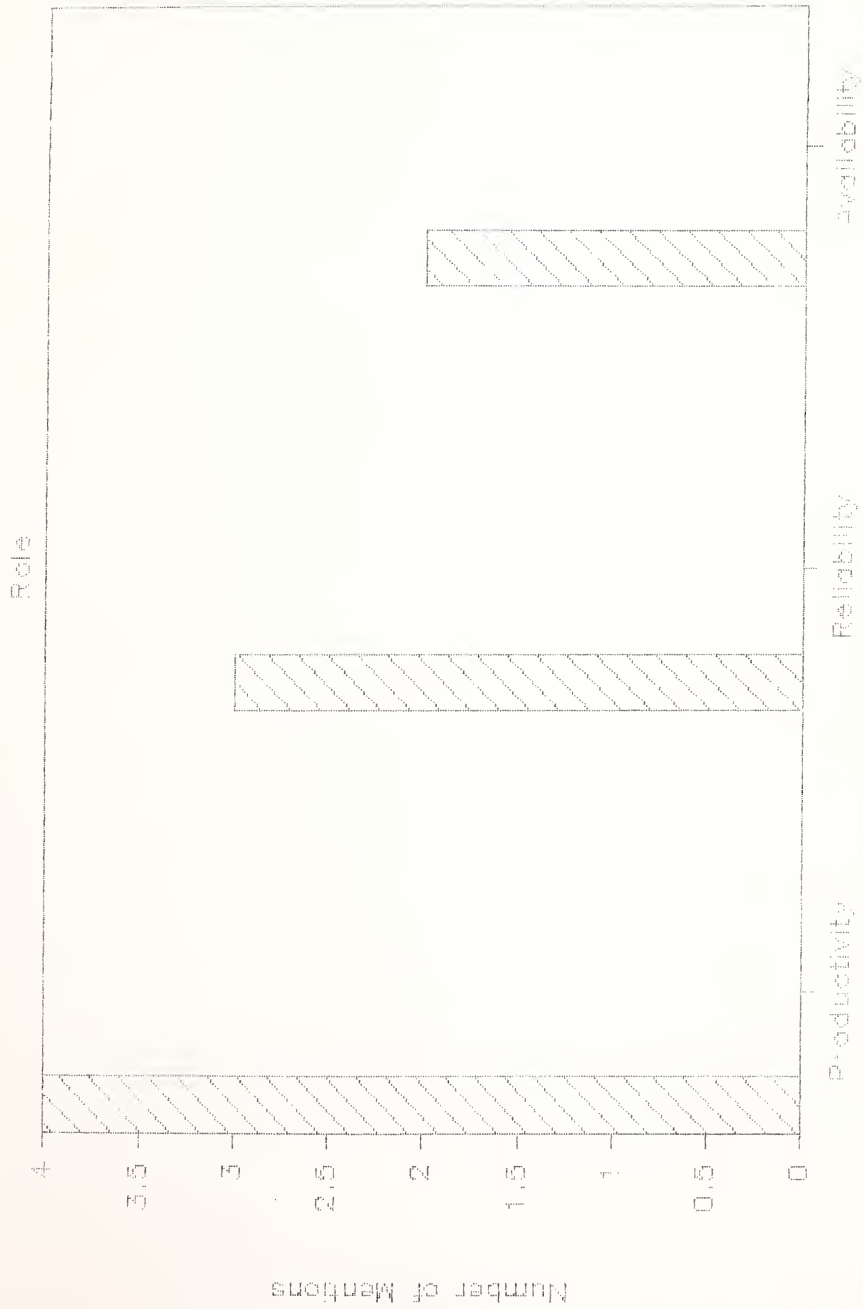


EXHIBIT III-19

Procurement

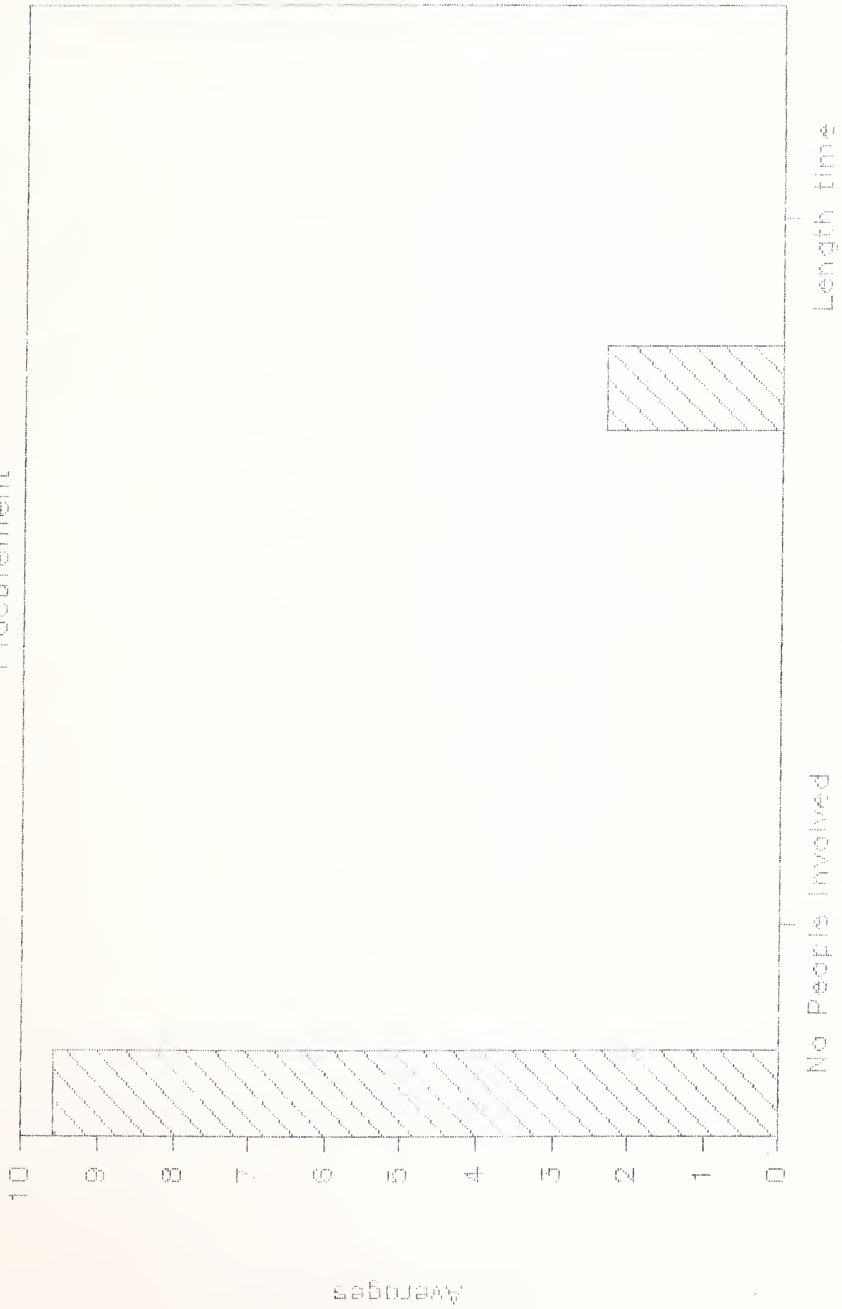


EXHIBIT III-20

External Influences & What It Would Take

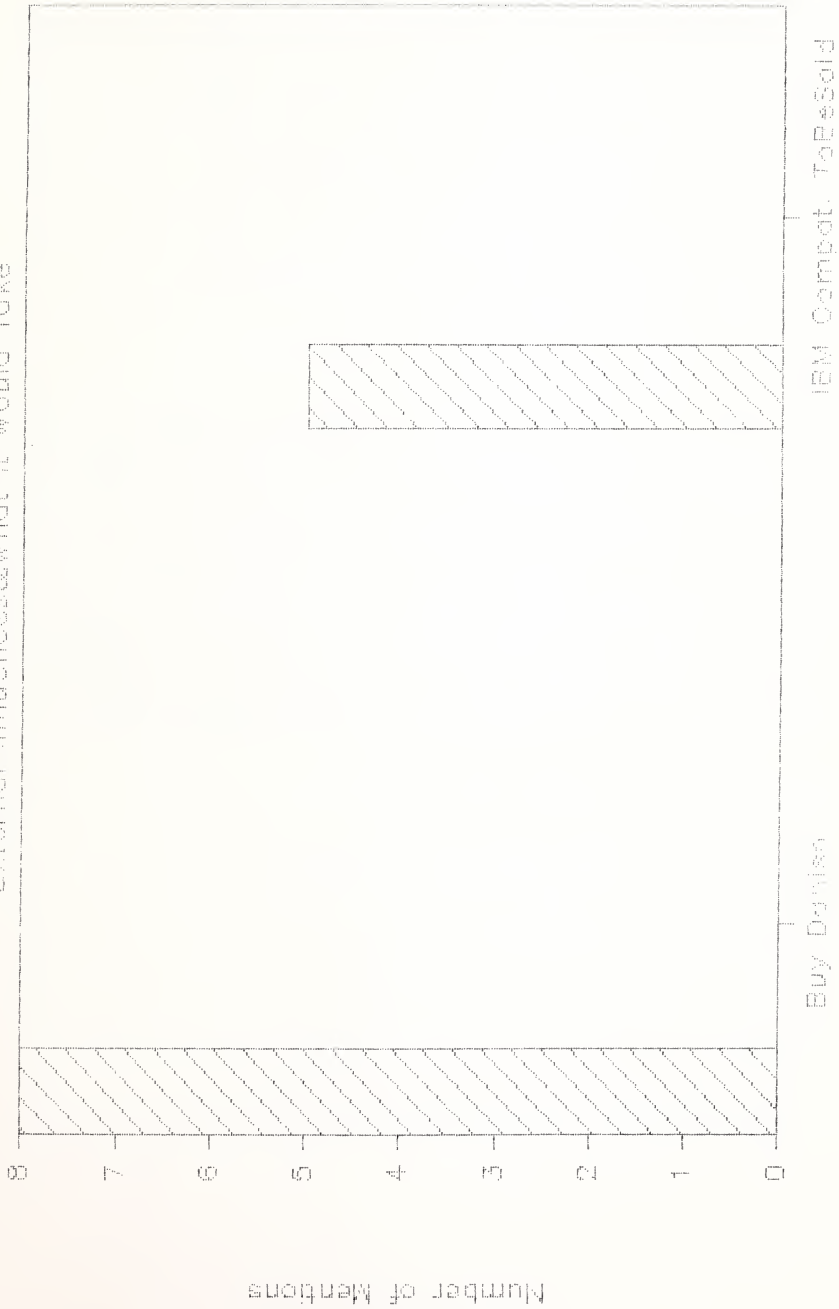


EXHIBIT III-21

Vendor Perceptions—Product Range

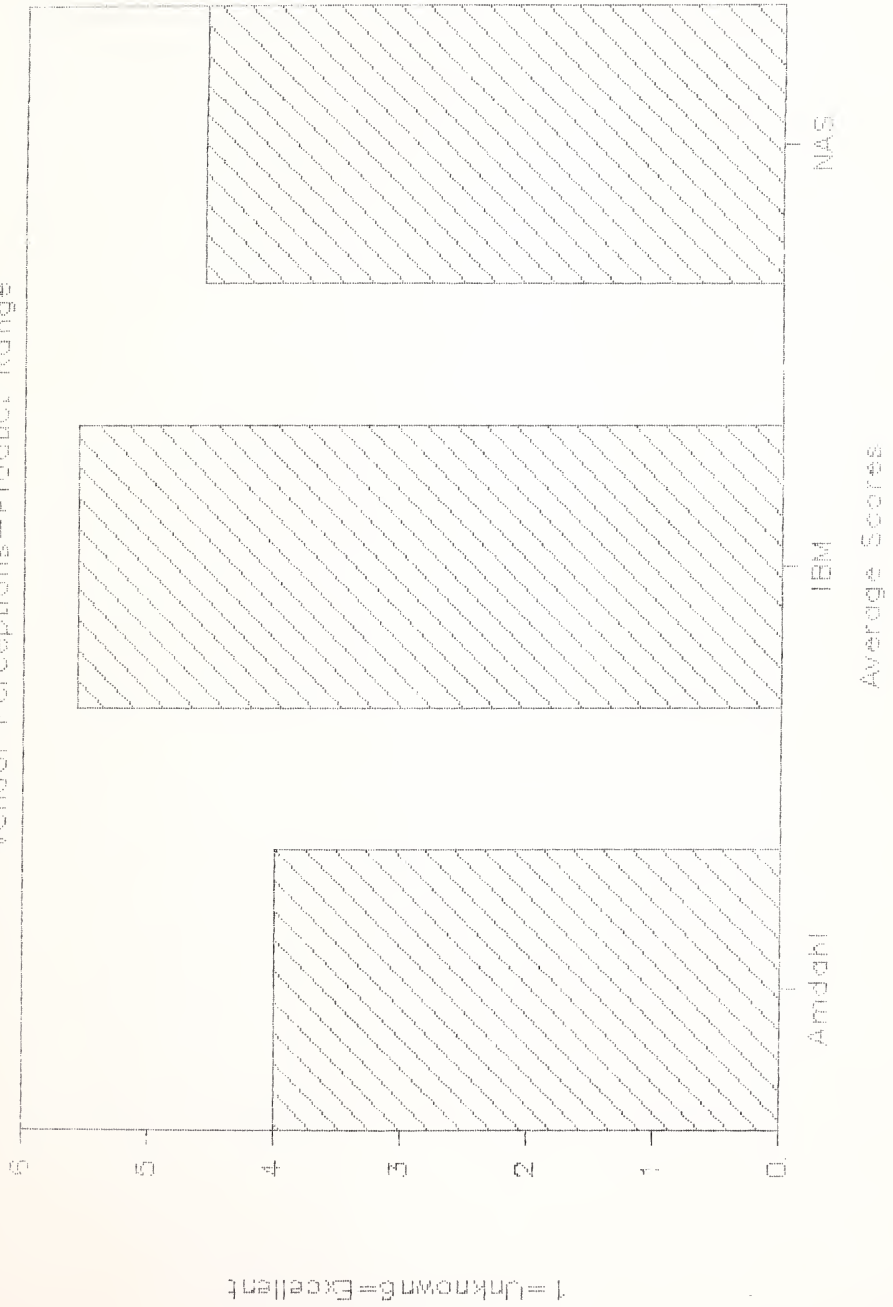


EXHIBIT III-22

Vendor Perceptions—Prod. Performance

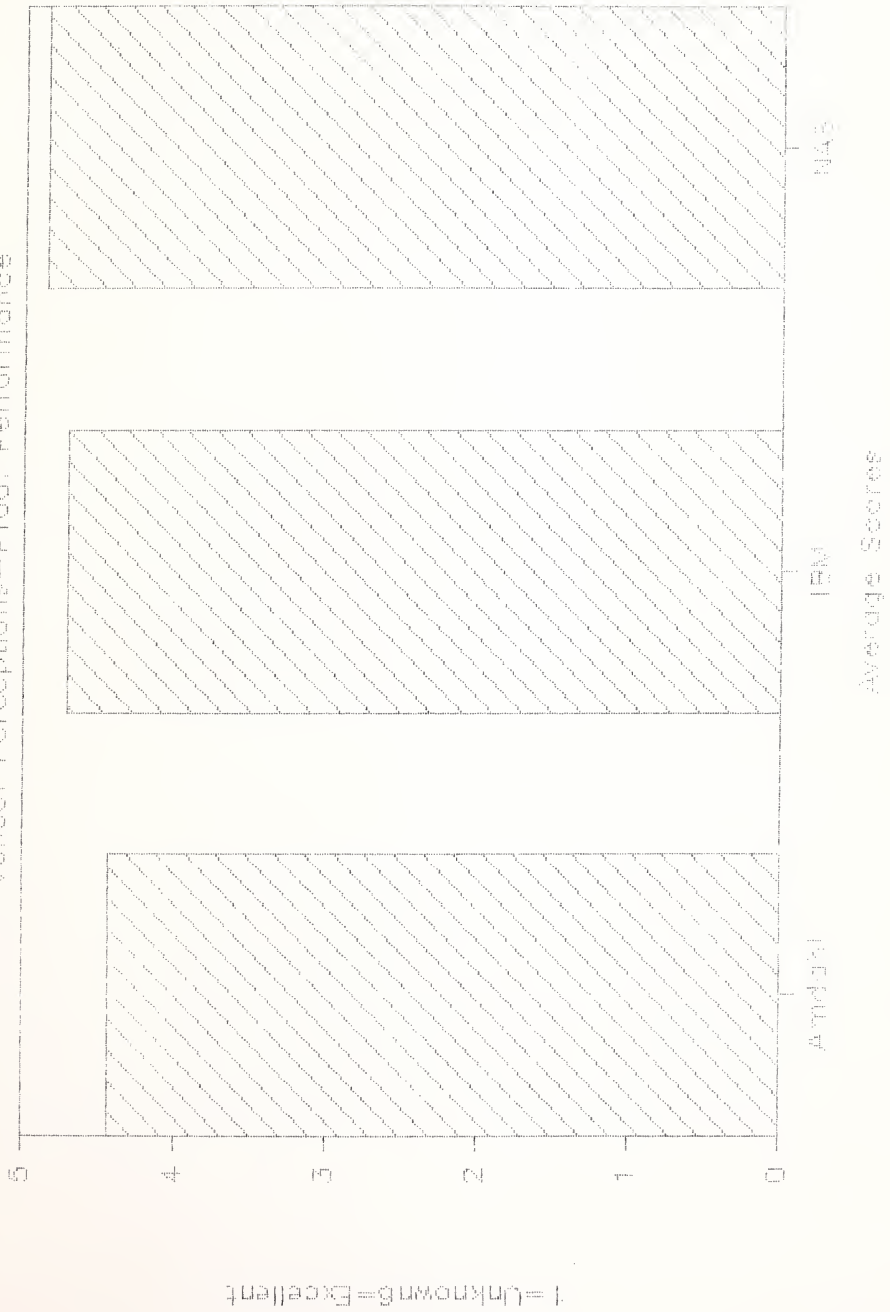


EXHIBIT III--23

Vendor Perceptions--Prod. Reliability

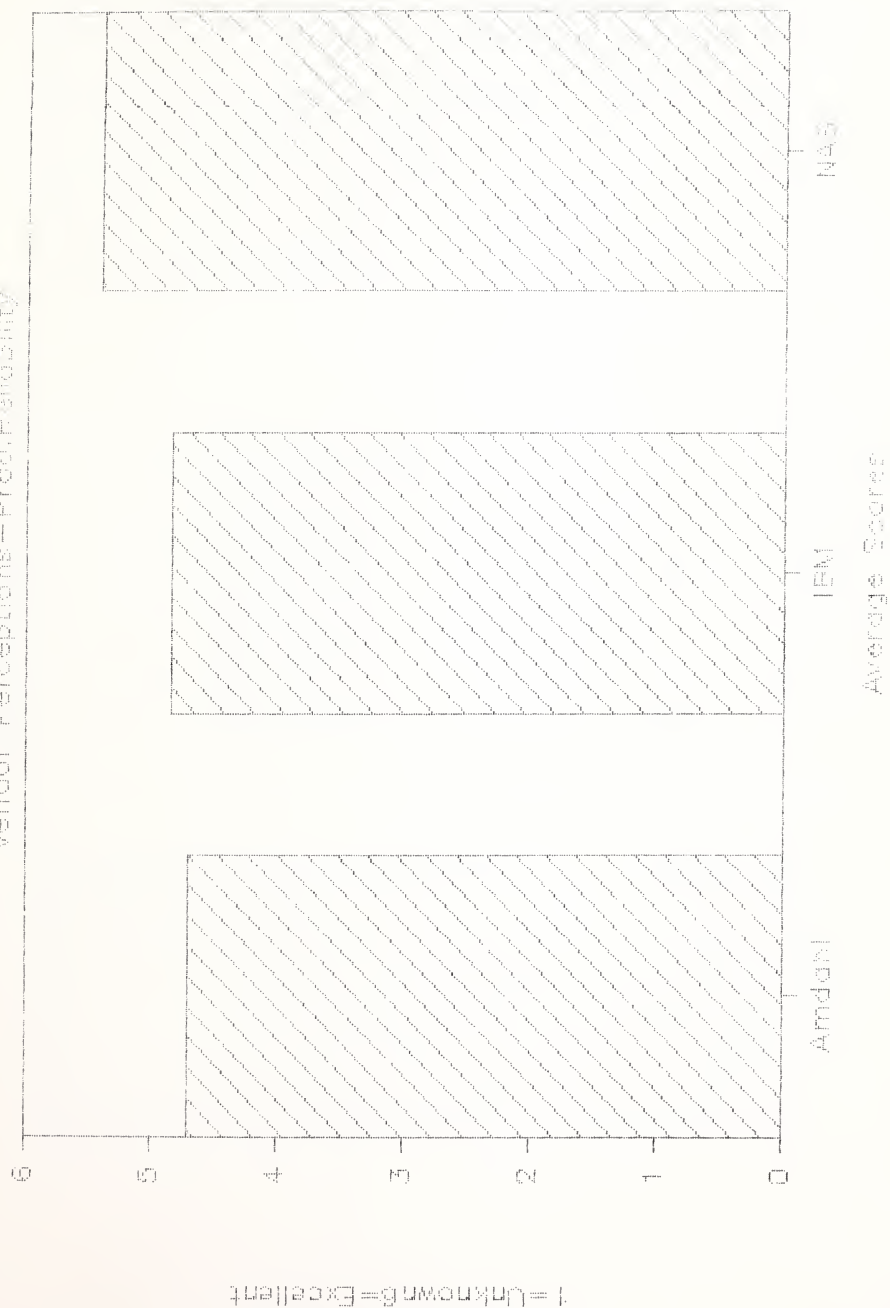


EXHIBIT III-24

Vendor Perceptions—Price

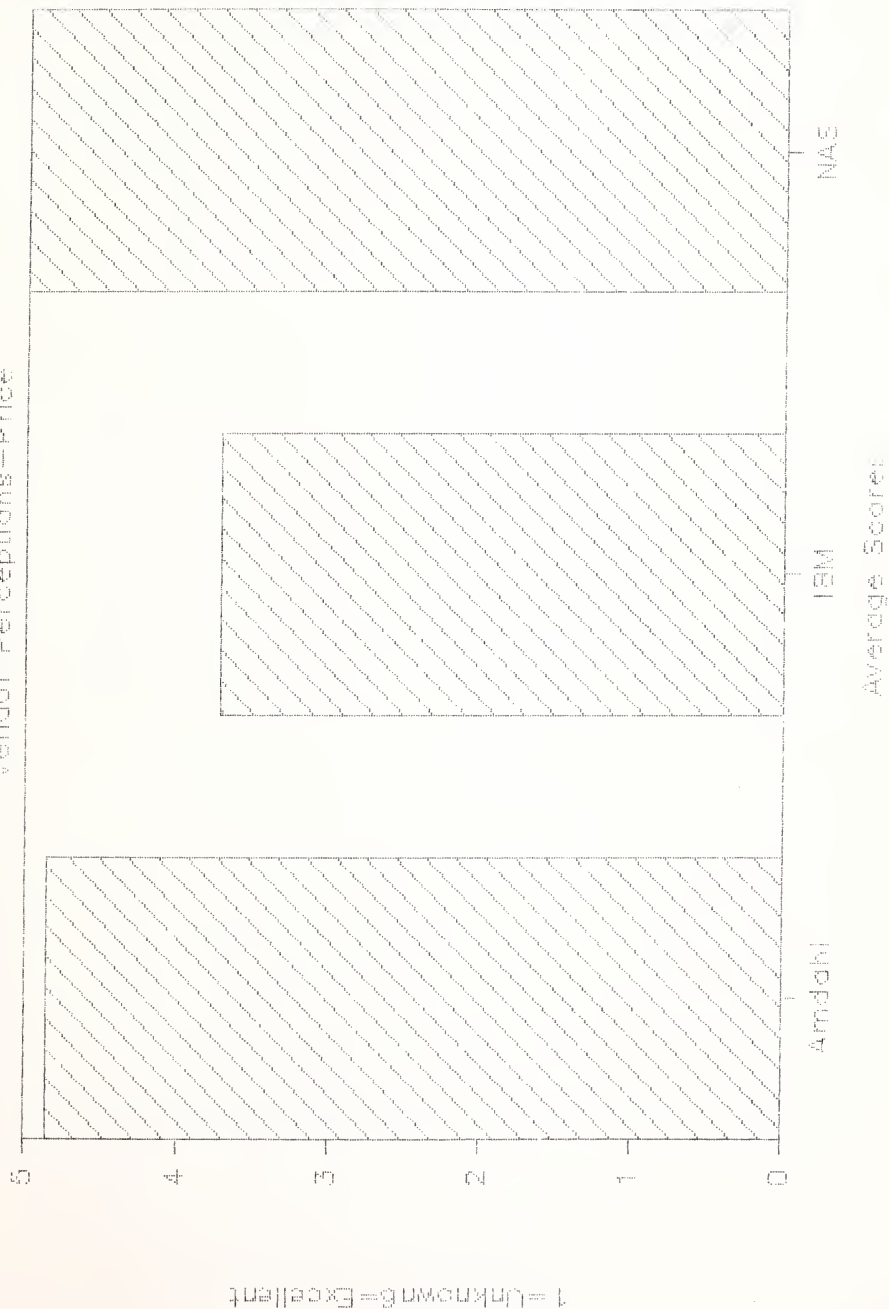
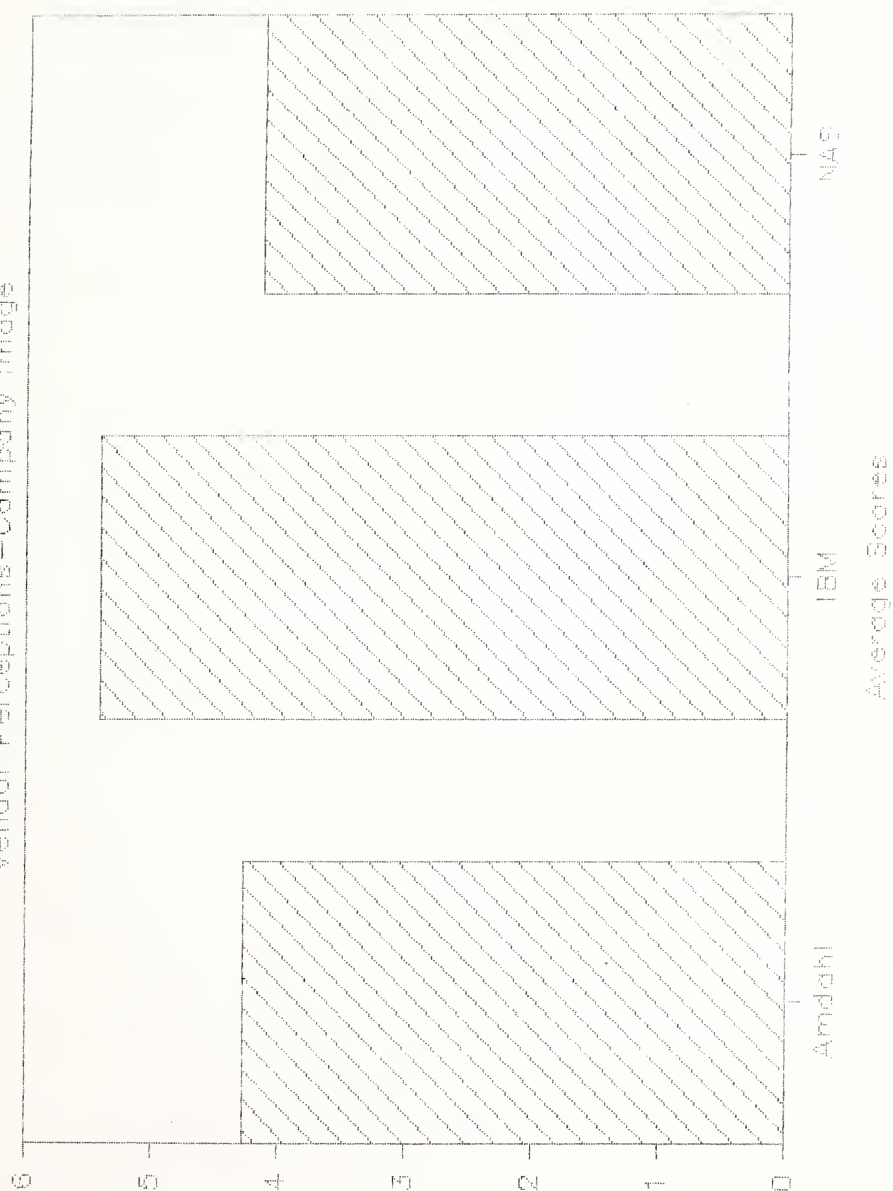


EXHIBIT III-25

Vendor Perceptions—Company Image



6. MARKETING STRENGTH (Exhibit III-26)

- o IBM is clearly seen as the strongest company followed by NAS and Amdahl.

7. PERSONNEL (Exhibit III-27)

- o NAS personnel are as highly regarded as those of IBM, and more so than Amdahl.

EXHIBIT III-26

Vendor Perceptions--Marketing Strength

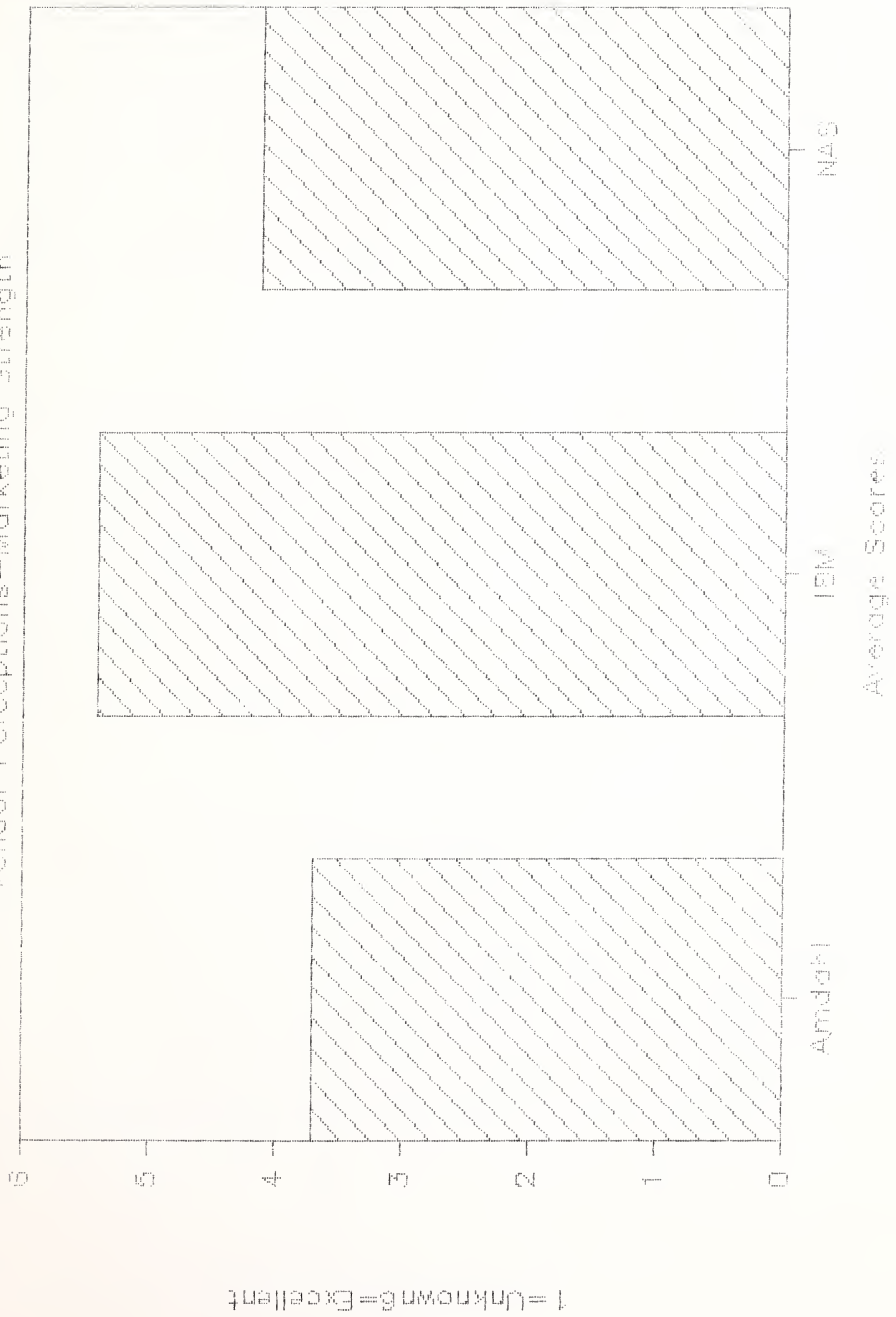
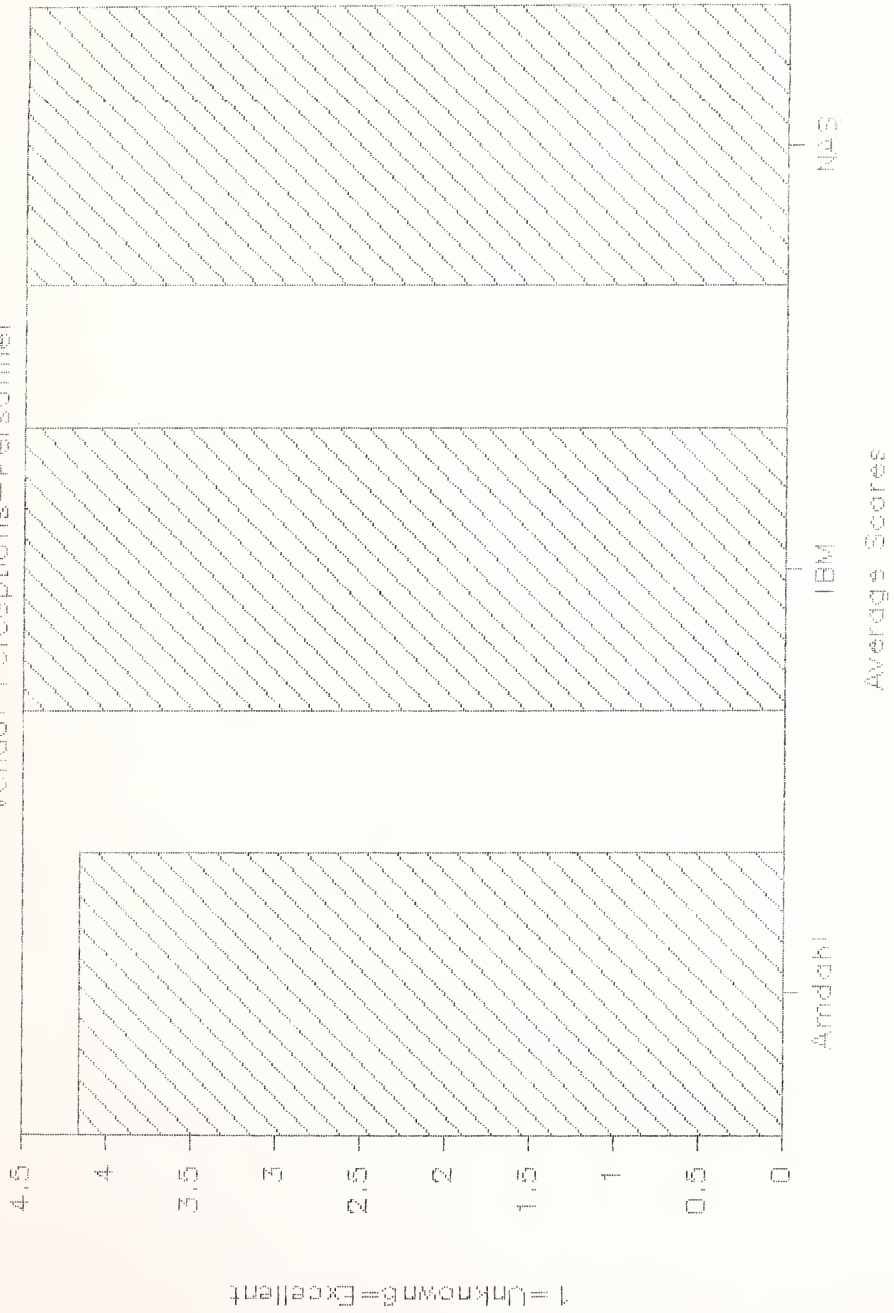


EXHIBIT III-27

Vendor Perceptions—Personnel



1 = Unknown 6 = Excellent

